2022/2023

UNIVERSITY OF SZEGED

Albert Szent-Györgyi School of Medicine

CURRICULUM

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BRIEF HISTORY OF THE UNIVERSITY OF SZEGED

Before the 12th century, intellectual and scholarly life concentrated in the monasteries. With the growing professionalisation of society in the 12th and 13th centuries, demand increased for educated professionals. The universities appeared in Europe from the 11th-12th century. Medieval universities were established for the study of arts, law, theology and medicine. Universities were not defined by location and space but by individuals banded together as a corporation. The end of the medieval period signalled the arrival of modern universities where teaching and research met.

In **1581**, following the establishment of universities in other regions of Central and Eastern Europe, *István Báthory*, the Prince of Transylvania, issued a founding document for a higher educational institute in Kolozsvár (Cluj-Napoca). The Jesuit Academy (*Societatis Jesu Academia Claudiopolitana*) was organized with two faculties, the Faculty of Philosophy and the Faculty of Theology. The academy was meant to have the rank of a university from the beginning; Prince Báthory endowed the institute with the right to confer baccalaureate and master's degrees on its students. At that time, the university held a unique place in the intellectual activity of Hungary; it was the only institute for higher education in Hungary.

The academy was soon closed due to religious and political turmoil, but the Jesuits re-established it and the institute gained more stability and prestige in the 17th century.

From **1753**, according to a decree passed by the Holy Roman Empress and Queen of Hungary and Bohemia, *Maria Theresia*, the institute functioned as a university, where teaching was carried out in German. She was one of the most significant proponents of enlightened absolutism; her educational reforms were highly lauded. **1774** saw not only the introduction of mandatory education but also the start of change for the University of Kolozsvár. After the Society of Jesus had been abolished, Maria Theresia entrusted the *Piarists* with the reorganization of the institute. As a result of the restructuring–in addition to the Faculties of Theology and Arts–two new faculties were established, the Faculty of Law (1774) and the Faculty of Medicine-Surgery (**1775**).

Later on, these faculties served as the basis for the *Hungarian Royal University of Kolozsvár*, which was founded by King *Francis Joseph I* and the Hungarian Parliament in **1872**. In **1881**, the university was renamed after the king and bore his name until 1940.

In 1919, the university had to leave its founding place and after a brief stay in Budapest, found new home in Szeged. From **1921** until 1940 the *Ferenc József Tudományegyem* (Francis Joseph University) gained more and more prestige. When in **1940** the university was divided and part of it moved back to Kolozsvár, the remaining staff and students, the laboratories and the library were reorganized. The university took the name of *Miklós Horthy*, who was a former Governor of Hungary. The first rector of this institute was *Albert Szent-Györgyi*, who received the most prestigious award of sciences in 1937, the Nobel-price, for his research conducted at the university.

After World War II the institute assumed the name University of Szeged. In **1951** the Faculty of Medicine formed an independent institution under the name *Medical University of Szeged*. The pharmacy training was started as an independent faculty (separate from the medical faculty) in **1957**, and the Division of Dentistry as part of the Faculty of Medicine in **1962**. The English-Language Program for foreign students was established in **1985**. From **1999** there is also a German-Language Program at the Faculty of Medicine. In **1987** the University assumed the name of its former Biochemistry Professor, Dean of the Faculty of Medicine, Rector, and Nobel Prize Laureate, Albert Szent-Györgyi who was first to isolate vitamin C, extracted from paprika.

In **2000** the Albert Szent-Györgyi Medical University became again an integrated part of the University of Szeged. The Faculty of Medicine and the Faculty of Pharmacy functioned as the *Albert Szent-Györgyi Medical and Pharmaceutical Center* until July 2007. In the year 2004 the English-language dentistry program was launched and the Faculty of Dentistry was founded in January **2007**.

The faculties obtain their basis for education by running a high-level clinical and research work. The task of the faculties is represented by three different fields: education, research-work, prevention-treatment.

The University of Szeged is one of the most distinguished universities in Hungary and is proud to be considered as the intellectual successor of the University of Kolozsvár founded in 1581.

MANAGEMENT OF THE UNIVERSITY OF SZEGED

Address: 6720 Szeged, Dugonics tér 13.
Tel.: + 36 62 544-001

RECTOR
Prof. Dr. LÁSZLÓ ROVÓ MD. PH.D. DSC.

CHANCELLOR
Dr. JUDIT FENDLER MBA, MSc.

VICE RECTOR FOR STRATEGIC INITIATIVES
PROF. MÁRTA SZÉLL M.D., PH.D., DSC.

VICE RECTOR FOR SCIENTIFIC AFFAIRS AND INNOVATION
PROF. ZOLTÁN KÓNYA PH.D., D.SC.

VICE RECTOR FOR EDUCATION
DR. KLÁRA GELLÉN PH.D

VICE RECTOR FOR INTERNATIONAL AND PUBLIC RELATIONS
PROF. PÉTER ZAKAR PH.D., D.Sc.

MANAGEMENT OF THE ALBERT SZENT-GYÖRGYI SCHOOL OF MEDICINE

6720 Szeged, Tisza Lajos krt. 109.
Tel.: + 36 62 545-016, Fax: + 36 62 545-478

DEAN
PROF. GYÖRGY LÁZÁR M.D., Ph.D., D.Sc.

VICE DEAN FOR GENERAL AND POSTGRADUATE EDUCATIONAL AFFAIRS
PROF. GÁBOR NÉMETH M.D., PH.D

VICE DEAN FOR EDUCATIONAL AFFAIRS
PROF. GYULA SÁRY M.D. PH.D., D.SC.

VICE DEAN FOR SCIENTIFIC AFFAIRS
PROF. TAMÁS MOLNÁR M.D. PH.D., D.SC.

VICE DEAN FOR ECONOMIC AFFAIRS
DR. NORBERT BUZÁS PH.D.

HEAD OF THE DEAN'S OFFICE
DR. NÓRA FŐZŐ LLD.

DEAN'S REPRESENTATIVES:

ADMISSION AND RECRUITMENT AFFAIRS (FOREIGN LANGUAGE PROGRAMS):
PROF. ISTVÁN LEPRÁN M.D. PH.D. D.SC.

EDUCATIONAL AFFAIRS OF THE GERMAN LANGUAGE MEDICAL PROGRAM:
DR. MÁRIA DUX M.D., PH.D.

PRECLINICAL EDUCATIONAL AFFAIRS:
DR. LÍVIA FÜLÖP PH.D.

CLINICAL EDUCATION AFFAIRS:
PROF. JÁNOS TAJTI M.D., PH.D., D.SC.

SCIENTIFIC AFFAIRS:
DR. JÓZSEF MALÉTH PH.D.

FINANCIAL AFFAIRS:
PROF. GÁBOR TÓTH PH.D., D.SC.

FOREIGN STUDENTS' SECRETARIAT

Address: 6720 Szeged, Dóm tér 12.
Tel: + 36 62 545-458
Web: www.szegedmed.hu

Head of the Academic Office

RITA RÓZSAHEGYI
Tel.: + 36 62 545-020
E-mail: rozsahegyi.rita@med.u-szeged.hu

Academic officers:

ANETT LÁSZLÓ
Tel.: + 36 62 546-857
E-mail: med1.fs@med.u-szeged.hu
(English Medical Program: year 1)

DEZSŐ PÉTER JEREMIÁS
Tel.: +36 62 545-177
E-mail: med2.fs@med.u-szeged.hu
(*English Medical Program: year 2)*

ALEXANDRA BÁNFI
Tel: +36 62 545 031
E-mail: med3.fs@med.u-szeged.hu
(English Medical Program: year 3)

MÁRTA BALOG
Tel.: +36 62 546-867
E-mail: neptun.fs@med.u-szeged.hu
(English Medical Program: year 4)

PÉTER JÁSZFALUSI
Tel.: +36 62 546-849
E-mail: prep.fs@med.u-szeged.hu
(English Medical Program: year 5, English language Foundation Year, Erasmus)

ÁGNES ÓTOTT
Tel.: + 36 62 545-030
E-mail: med6.fs@med.u-szeged.hu
(English Medical Program: year 6, Medical Alumni)

SZILVIA BAUNOK
Tel.: + 36 62 546-865
E-mail: german1.fs@med.u-szeged.hu
(German Medical Program: year 1, German Foundation Year)

ANITA TAKÁCS
Tel.: + 36 62 546-866
E-mail: german2.fs@med.u-szeged.hu
(German Medical Program: Year 2)

EMŐKE RABECZNÉ LAUDISZ
Tel.: + 36 62 545-836
E-mail: finance.fs@med.u-szeged.hu
(Financial Administrator)

Admissions Office:

ANDREA LEHOCKI BALOG
E-mail: lehocki.balog.andrea@rekt.szte.hu

KATALIN FEHÉR
Tel.: + 36 62 342-124
E-mail: apply.fs@med.u-szeged.hu
(Application: English language Medical and Foundation Year for Health Science programs)

SZILVIA TÖRÖK-CSORDÁS
Tel.: +36 62 342-059
E-mail: admission.fs@med.u-szeged.hu
(English programs: after admission)

BORBÁLA VÁRÓ
Tel.: + 36 62 545-969
E-mail: entrance.fs@med.u-szeged.hu
(Entrance Examination: English language Health Science programs)

ERZSÉBET GUTÁNÉ NAGY
Tel.: +36 545 836
E-Mail: bewerbung.fs@med.u-szeged.hu
(German Medical Program: application and admission)

Reception hours:

Monday and Thursday:	**9.30 - 12.00** and **14.30 - 15.30**
Tuesday, Wednesday and Friday:	**9.30 - 12.00**

ORGANIZATIONAL UNITS

Pre-Clinical Departments

Department of Anatomy, Histology and Embryology (ANATÓMIAI, SZÖVET- ÉS FEJLŐDÉSTANI INTÉZET)
(Szeged, Kossuth Lajos sugárút 38. Tel: + 36 62 545-665, Fax: + 36 62 545-707)
Head of Department: Prof. habil. ANTAL NÓGRÁDI M.D., Ph.D., D.Sc.

Department of Behavioural Sciences
(MAGATARTÁSTUDOMÁNYI INTÉZET)
(Szeged, Mars tér 20.; Tel.: + 36 62 545-968)
Head: Dr. habil. OGUZ KELEMEN M.D., Ph.D

Section of Gerontology
(GERONTOLÓGIAI OKTATÁSI RÉSZLEG)
Head: Dr. habil. SÁNDOR BENKŐ Ph.D.

Department of Biochemistry (BIOKÉMIAI INTÉZET)
(Szeged, Dóm tér 9. Tel.: + 36 62 545-096, Fax: + 36 62 545-097)
Head of Department: Dr. habil. TAMÁS CSONT M.D., Ph.D.

Department for Medical Communication and Translation
(ORVOSI SZAKNYELVI KOMMUNIKÁCIÓS ÉS FORDÍTÓKÉPZŐ CSOPORT)
(Szeged, Kossuth L. sgt. 35. Tel/Fax: +36 62 342-498)
Head of Department: Dr. habil. CSILLA KERESZTES Ph.D.

Department of Medical Biology (ORVOSI BIOLÓGIAI INTÉZET)
(Szeged, Somogyi Béla u. 4. Tel.: + 36 62 545-109, Fax: + 36 62 545-131)
Head of Department: Prof. ZSOLT BOLDOGKŐI, Ph.D., D.Sc.

Department of Medical Chemistry (ORVOSI VEGYTANI INTÉZET)
(Szeged, Dóm tér 8. Tel.: + 36 62 545-136, Fax: + 36 62 545-971)
Head of Department: Prof. habil. TAMÁS MARTINEK D. Chem., Ph.D, D.Sc.

Supramolecular and Nanostructured Materials Research Group
(MAGYAR TUDOMÁNYOS AKADÉMIA SZUPRAMOLEKULÁRIS ÉS NANOSZERKEZETŰ ANYAGOK KUTATÓCSOPORT
(Szeged, Dóm tér 8. Tel.: + 36 62 544-593)
Hungarian Academy of Sciences - University of Szeged
Head: Prof. habil. IMRE DÉKÁNY D. Chem., Ph.D., D.Sc.

Department of Medical Physics and Informatics (ORVOSI FIZIKAI ÉS ORVOSI INFORMATIKAI INTÉZET)
(Szeged, Korányi fasor 9. Tel/Fax.: + 36 62 545-077)
Head of Department: Prof. habil. FERENC PETÁK Ph.D., D.Sc.

Department of Medical Microbiology
(ORVOSI MIKROBIOLÓGIAI ÉS IMMUNBIOLÓGIAI INTÉZET)
(Szeged, Dóm tér 10. Tel.: + 36 62 545-115, Fax: + 36 62 545-113)
Head of Department: Dr. KATALIN BURIÁN, MD., Ph.D.

Department of Immunology
(IMMUNOLÓGIA TANSZÉK)
(Szeged, Korányi Fasor 6. Tel.: + 36 62 342 826)
Head of Department: KRISZTINA BUZÁS DR. KÖRMÖNDINÉ, Ph.D.

Department of Pathophysiology (KÓRÉLETTANI INTÉZET)
(Szeged, Semmelweis u. 1. Tel.: + 36 62 545-994, Fax: + 36 62 545-710)
Head of Department: Prof. habil. ZOLTÁN RAKONCZAY, M.D., Ph.D., D.Sc.

Department of Pharmacology and Pharmacotherapy
(FARMAKOLÓGIAI ÉS FARMAKOTERÁPIAI INTÉZET)
(Szeged, Dóm tér 12. Tel.: + 36 62 545-682, Fax: + 36 62 545-680)
Head of Department: Dr. habil. ISTVÁN BACZKÓ M.D., Ph.D.

Cardiovascular Pharmacology Research Group
(MTA-SZTE KERINGÉSFARMAKOLÓGIAI KUTATÓCSOPORT)
(Szeged, Dóm tér 12. Tel.: + 36 62 545-681, Fax: + 36 62 544-565)
Hungarian Academy of Sciences - University of Szeged
Head: Prof. habil ANDRÁS VARRÓ, M.D., Ph.D., D.Sc.

Department of Physiology (ÉLETTANI INTÉZET)
(Szeged, Dóm tér 10. Tel.: + 36 62 545-101, Fax: + 36 62 545-842)
Head of Department: Prof. habil. GYULA SÁRY, M.D., Ph.D. D.Sc.

Department of Public Health (NÉPEGÉSZSÉGTANI INTÉZET)
(Szeged, Dóm tér 10. Tel.: + 36 62 545-119, Fax: + 36 62 545-120)
Head of Department: Prof. EDIT PAULIK, M.D. Ph.D.

Institute of Surgical Research (SEBÉSZETI MŰTÉTTANI INTÉZET)
(Szeged, Pulz u. 1. Tel.: + 36 62 545-103, Fax: 545-743)
Head of Department: Prof. habil. MIHÁLY BOROS, M.D., Ph.D., D.Sc.

Department of Cell Biology and Molecular Medicine (SEJTBIOLÓGIA ÉS MOLEKULÁRIS MEDICINA TANSZÉK)
(Szeged, Somogyi Béla u. 4. Tel./Fax: + 36 62 544-569)
Head: Dr. ESZTER FARKAS

Department of Sports Medicine (SPORTORVOSTANI TANSZÉK)
(H-6725 Szeged, Tisza Lajos krt. 107. 1st floor 147.office, Tel: +36-62-54-5032)
Head: Dr. LÁSZLÓ TÖRÖK

Clinics, Clinical and Diagnostic Departments

Department of Anesthesiology and Intensive Therapy (ANESZTEZIOLÓGIAI ÉS INTENZÍV TERÁPIÁS INTÉZET)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-168)
Head of Department: Prof. BARNA BABIK, M.D., Ph.D., D.Sc.

Department of Aviation and Space Medicine (REPÜLŐ- ÉS ŰRORVOSI TANSZÉK)
(Kecskemét, Balaton u. 17. Tel.: + 36 76-581-600/3170, Fax: +36 76 581-622
Head of Department: Prof. habil. SÁNDOR ANDRÁS SZABÓ, M.D., Ph.D.

Department of Health Economics (EGÉSZSÉG-GAZDASÁGTANI INTÉZET)
(Szeged, Kossuth Lajos sgt. 35. Tel.: +36- 70 424 4830
Head of Department: Dr. Habil. NORBERT BUZÁS

Department of Laboratory Medicine
(LABORATÓRIUMI MEDICINA INTÉZET)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-751, Fax: +36 62 544-559)
Head of Department: Dr. habil. IMRE FÖLDESI, Pharm.D., Ph.D.

Department of Clinical Microbiology
(KLINIKAI MIKROBIOLÓGIAI DIAGNOSZTIKAI INTÉZET)
Szeged, Semmelweis u. 6. Tel.: +36 62 545-398, Tel./Fax: +36 62 545-712
Head of Institute: Dr. KATALIN BURIÁN, MD., Ph.D.

Department of Dermatology and Allergology (BŐRGYÓGYÁSZATI ÉS ALLERGOLÓGIAI KLINIKA)
(Szeged, Korányi fasor 6. Tel.: + 36 62 545-277, Fax: +36 62 545-954)
Head of Department: Prof. habil. LAJOS KEMÉNY, M.D., Ph.D., D.Sc.

Dermatology Research Group
(MTA-SZTE DERMATOLÓGIAI KUTATÓCSOPORT)
(Szeged, Korányi fasor 6. Tel.: + 36 62 545-277)
Hungarian Academy of Sciences - University of Szeged
Head: Prof. habil. LAJOS KEMÉNY, M.D., Ph.D., D.Sc.

Department of Emergency Medicine (SÜRGŐSSÉGI BETEGELLÁTÓ ÖNÁLLÓ OSZTÁLY)
(Szeged, Semmelweis u. 6. Tel.: +36 62 545-934)
Head of the Department: Dr. ZOLTÁN PETŐ M.D.

Department of Family Medicine (CSALÁDORVOSI INTÉZET ÉS RENDELŐ)
(Szeged, Tisza Lajos krt 109. Tel./Fax: + 36 62 545-553)
Head of Department: Prof. habil. ALBERT VARGA, M.D., Ph.D.

Department of Forensic Medicine (IGAZSÁGÜGYI ORVOSTANI INTÉZET)
(Szeged, Kossuth Lajos sugárút 38. Tel./Fax: + 36 62 545-708)
Acting Head of Department: Dr. ROLAND WEICZNER, M.D., Ph.D.

Departments of Internal Medicine

First Department of Internal Medicine (I. SZ. BELGYÓGYÁSZATI KLINIKA)
(Szeged, Korányi fasor 8-10, Secretary: Tel.: + 36 62 545-189, Fax: + 36 62 545-185)
Head of Department: Prof. habil. CSABA LENGYEL, M.D., Ph.D.,

II. Division of Internal Medicine (BELGYÓGYÁSZATI OSZTÁLY II.)
(Szeged, Kálvária sgt. 57. Tel.: +36 62 561-361)
Head of Division: Dr. JÓZSEF KISS, M.D.

I. Division of Geriatry and Chronical Diseases (GERIÁTRIAI ÉS KRÓNIKUS BELGYÓGYÁSZATI OSZTÁLY I.)
(Szeged, Kossuth L. sgt. 42. Tel.: +36 62 553-853)
Head of Division: Dr. MAGDOLNA ZÖLLEI, M.D.

Division of Infectology (INFEKTOLÓGIAI OSZTÁLY)
(Szeged, Kálvária sgt. 57. Tel.: +36 62 341796)
Head of Division: Dr. habil EDIT HAJDÚ, M.D., Ph. D.

Dyalisis Center
(FMC MAGYARORSZÁGI EGÉSZSÉGÜGYI KFT.
DIALÍZIS CENTRUM)
(6724 Szeged, Korányi fasor 8-10., Tel.: 545-585)
Head of Center: Dr. ZOLTÁN ONDRIK, M.D.

Division of Endocrinology and Research Laboratory
(ENDOKRINOLÓGIAI ÖNÁLLÓ OSZTÁLY ÉS KUTATÓ LABORATÓRIUM)
(Szeged, Korányi fasor 8. Tel./Fax: + 36 62 545-211)
Head of Division: Prof. habil. JÁNOS JULESZ, M.D., Ph.D.

Second Department of Internal Medicine and Cardiological Center
(II. SZ. BELGYÓGYÁSZATI KLINIKA ÉS KARDIOLÓGIAI KÖZPONT)
(Szeged, Semmelweis u. 8. Tel.: + 36 62 545-220, Fax: + 36 62 544-568)
Head of Department: Dr. RÓBERT SEPP M.D., Ph.D., D.Sc.

Section of Invasive Cardiology (INVAZÍV KARDIOLÓGIAI RÉSZLEG)
(Szeged, Semmelweis u. 8. Building B. Tel: +36 62 544-915, 544-962, 545-473,
Fax: +36 62 544- 915)
Head of Section: Dr. IMRE UNGI, M.D.

Divison of Cardiac Surgery (SZÍVSEBÉSZETI OSZTÁLY)
(Szeged, Semmelweis u. 8. Fel: +36 62 545-183, Fax: +36 62 544-563)
Head of Division: Dr. GÁBOR BOGÁTS, M.D.

Department of Oral and Maxillofacial Surgery (ARC-, ÁLLCSONT- ÉS SZÁJSEBÉSZETI KLINIKA)
(6725 Szeged, Kálvária sgt. 57. Tel.: + 36 62 341170, Fax.: + 36 62 561-340)
Head of Department: Prof. habil. JÓZSEF PIFFKÓ D.M.D., M.D., Ph.D.

Department of Medical Genetics (ORVOSI GENETIKAI INTÉZET)
(Szeged, Somogyi Béla u. 4. Tel.: + 36 62 545-134, Fax: + 36 62 545-699)
Head of Department: Dr. habil. MÁRTA SZÉLL, M.D., Ph.D.

Department of Medical Rehabilitation (REHABILITÁCIÓS MEDICÍNA TANSZÉK)
(Szeged, Korányi fasor 8-10.)
Head of the Department: Dr. GÁBOR FAZEKAS

Department of Preventive Medicine (PREVENTÍM MEDICÍNA TANSZÉK)
(Szeged, Korányi fasor 8-10.)
Head of the Department: Dr. ISTVÁN KÓSA

Department of Neurology (NEUROLÓGIAI KLINIKA)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-351, Fax: + 36 62 545-597)
Head of Department: Prof. habil. PÉTER KLIVÉNYI M.D., Ph.D., D.Sc.

Department of Neurosurgery (IDEGSEBÉSZETI KLINIKA)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-379, Fax: +36 62 545-972)
Head of Department: Prof. habil. PÁL BARZÓ, M.D., Ph.D., D.Sc.

Department of Nuclear Medicine (NUKLEÁRIS MEDICINA INTÉZET)
(Szeged, Korányi fasor 6. Tel.: + 36 62 545-390, Fax: + 36 62 544-564)
Head of Department: Prof. habil. LÁSZLÓ PÁVICS, M.D., Ph.D., D.Sc.

Department of Obstetrics and Gynaecology (SZÜLÉSZETI ÉS NŐGYÓGYÁSZATI KLINIKA)
(Szeged, Semmelweis u. 1. Tel.: + 36 62 545-499, Fax: + 36 62 545-711)
Head: Prof. habil. GÁBOR NÉMETH, M.D., Ph.D.

Department of Oncotherapy (ONKOTERÁPIÁS KLINIKA)
(Section A: Szeged, Korányi fasor 12.Tel.: + 36 62 545-404, Fax: +36 62 545-922)
Head of Department: Prof. Dr. JUDIT OLÁH, M.D., D.Sc., Habil

Department of Ophthalmology (SZEMÉSZETI KLINIKA)
(Szeged, Korányi fasor 10-11. Tel.: + 36 62 545-487, Fax: + 36 62 544-573)
Head: Dr. EDIT TÓTH-MOLNÁR M.D., Ph.D.

Department of Orthopedics (ORTOPÉDIAI KLINIKA)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-423
Acting Head of Department: Dr. KRISZTIÁN SISÁK, M.D., Ph.D.

Central Physiotherapeutic Unit and Educational Group
(KÖZPONTI FIZIOTERÁPIÁS RÉSZLEG ÉS OKTATÁSI CSOPORT)
Head: Fehérné Kiss Anna

Department of Oto-Rhino-Laryngology and Head-Neck Surgery
(FÜL, ORR, GÉGÉSZETI ÉS FEJ-NYAKSEBÉSZETI KLINIKA)
(Szeged, Tisza Lajos körút 111. Tel.: + 36 62 545-310
Head: Prof. habil. LÁSZLÓ RÓVÓ, M.D., Ph.D.

Department of Pathology (PATHOLOGIAI INTÉZET)
(Szeged, Állomás u. 2. Tel.: + 36 62 545-148, 545-878, Fax: + 36 62 545-868)
Head of Department: Prof. dr. LÁSZLÓ TISZLAVICZ, M.D.

Department of Pediatrics and Child Health Center
(GYERMEKGYÓGYÁSZATI KLINIKA ÉS GYERMEKEGÉSZSÉGÜGYI KÖZPONT)
(Szeged, Korányi fasor 14-15. Tel.: + 36 62 545-330 Fax: + 36 62 545-329)
Head: Dr. CSABA BERECZKI, M.D., Ph.D.

Department of Pediatrics Child Health Center Outpatient Department Section D
(GYERMEKGYÓGYÁSZATI KLINIKA ÉS GYERMEKEGÉSZSÉGÜGYI KÖZPONT "D" RÉSZLEG GYERMEK- ÉS IFJÚSÁGPSZICHIÁTRIAI OSZÁLY)
(Szeged, Boldogasszony sugárút 15. Tel.: + 36 62 545-052, Fax: + 36 62 545-049)
Head: Dr. KRISZTINA KAPORNAI

Department of Psychiatry (Pszichiátriai Klinika)
(Szeged, Korányi fasor 8-10.)
Head of Department: Prof. habil. JÁNOS KÁLMÁN, M.D., PhD, D.Sc.

Psychiatry Unit I.
(I. sz. PSZICHIÁTRIAI OSZTÁLY)
(Szeged, Korányi fasor 8-10. 3rd floor)
Head of Unit: Dr. RÓBERT TARI, M.D.

Psychiatry Unit II.
(II. sz. PSZICHIÁTRIAI OSZTÁLY)
(Szeged, Korányi fasor 8-10. 3rd floor)
Head of Unit: Dr. ILDIKÓ DEMETER, M.D.

Psychiatry Unit III.
(III. sz. PSZICHIÁTRIAI OSZTÁLY)
(Szeged, Korányi fasor 8-10. 2nd floor)
Head of Unit: Dr. ERIKA HAJNALKA TÓTH, M.D.

Psychiatric Outpatient Unit
(PSZICHIÁTRIAI JÁRÓBETEG-ELLÁTÁS ÉS GONDOZÁS)
(Szeged, Mars tér 20.)
Head of Unit: Dr. ANNA KISS-SZŐKE, M.D.

Department of Pulmonology (TÜDŐGYÓGYÁSZATI TANSZÉK)
(Deszk, Alkotmány u. 36. Tel./Fax: + 36 62 571-552)
Head of Department: Prof. Dr. Attila Somfay MD, Ph.D.

Department of Radiology (RADIOLÓGIAI KLINIKA)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-429, Fax: + 36 62 545-742)
Head of Department: Dr. ZSIGMOND TAMÁS KINCSES M.D., Ph.D.

Department of Rheumatology and Immunology (REUMATOLÓGIAI KLINIKA)
(6725 Szeged, Kálvária sgt. 57., Tel: +36-62-341-520)
Head of the Department: Prof. habil. LÁSZLÓ KOVÁCS M.D., Ph.D.

Department of Surgery (SEBÉSZETI KLINIKA)
(Szeged, Semmelweis u. 8. Tel.: + 36 62 545-444, + 36 62 545-445, + 36 62 545-446, Fax: +36 62 545-701)
Head of Department: Prof. habil. GYÖRGY LÁZÁR, M.D., Ph.D., D.Sc.

Transfusiology Section (TRANSZFÚZIOLÓGIAI TANSZÉK)
(Szeged, Szőkefalvi-Nagy B u. 4/b Tel.: +36 62 546-805Fax: + 36 62 545-908)
Head of Department: Dr. IMELDA MARTON, M.D. Ph.D.

Department of Traumatology (TRAUMATOLÓGIAI KLINIKA)
(Szeged, Semmelweis u. 6. Tel.: + 36 62 545-531, Fax: + 36 62 545-530)
Head of Department: associate Prof. László Török Ph.D.

Department of Urology (UROLÓGIAI KLINIKA)
(Szeged, Kálvária sugárút 57. Tel./Fax: + 36 62 341140, + 36 62 341152)
Head of Department: Prof. habil. ZOLTÁN BAJORY, M.D., Ph.D.

LIST OF EDUCATIONAL ADVISORS AND RESEARCH CONSULTANTS

Research at the bench or on a clinical basis provides a very important perspective for future physicians. It gives the students a chance to pursue common goals with faculty mentors and may give a glimpse into potential careers. Students are strongly encouraged to consider research opportunities. See your scientific research consultant at each department.

Department	Educational advisor	Research consultant
Dept. of Anatomy, Histology and Embryology	**Dr. Endre Dobó** **+** 36 62/544 000/6496 *dobo.endre@med.u-szeged.hu*	**Dr. Krisztián Pajer**
Dept. of Anesthesiology and Intensive Therapy	**Dr. Ádám László Balogh** + 36 62 545-168 *balogh.adam.laszlo@med.u-szeged.hu*	**Dr. Ádám László Balogh**
Dept. of Behavioural Sciences	**Prof. Dr. Bettina Pikó** +36 62/545 968 *fuzne.piko.bettina@med.u-szeged.hu*	**Dr. Oguz Kelemen**
Dept. of Biochemistry	**Dr. Csaba Csonka** +36 62/545 755 *csonka.csaba@med.u-szeged.hu*	**Dr. Tamás Csont**
Department of Cell Biology and Molecular Medicine	**Dr. Ádám Légrádi** +36 62/544 000/2296 *legradam@molmed.szote.u-szeged.hu*	**Dr. Ádám Légrádi**
Department of Clinical Microbiology	**Dr. Gabriella Terhes** +36 62/545 888 *terhes.gabriella@med.u-szeged.hu*	**Dr. Gabriella Terhes**
Dept. of Laboratory Medicine	**Dr. Rita Ónody** +36 62/545 753 *onody.rita@med.u-szeged.hu*	**Dr. Rita Ónody**
Dept. of Surgery	**Prof. Dr. András Petri** +36 62/545 445 *petri.andras@med.u-szeged.hu*	**Dr. Zsolt Simonka**
Dept. of Dermatology and Allergology	***Dermatology*** **Dr. Almásiné Dr. Csoma Zsanett Renáta** +36 62/545 259 *almasine.csoma.zsanett@med.u-szeged.hu* ***Clicinal Immunology*** **Dr. Zsuzsanna Bata** +36 62/545-996 *bata.zsuzsa@med.u-szeged.hu*	**Dr. Almásiné Dr. Csoma Zsanett Renáta** **Dr. Zsuzsanna Bata**
1st Department of Internal Medicine	**Dr. András Rosztóczy** +36 62/545 195 *rosztoczy.andras@med.u-szeged.hu*	**Dr. Tamás Takács**
2nd Department of Internal Medicine	Cardiology: **Dr. Andrea Vass** *vass.andrea@med.u-szeged.hu* Hematology: **Dr. Tímea P. Gurbity** + 36 62/545 226 *gurbity.palfi.timea@med.u-szeged.hu*	
Department of Emergency Medicine	**Dr. Dániel Töttösi** **Dr. Dóra Dinya** **Dr. Gabriella Molnár**	

Dept. of Forensic Medicine	**Dr. Beáta Havasi** +36 62/342-910 *havasi.beata@med.u-szeged.hu*	**Dr. Beáta Havasi**
Dept. of Health Economics	**Dr. Norbert Buzás** *buzas.norbert@med.u-szeged.hu*	**Dr. Norbert Buzás**
Department for Medical Communication and Translation	Hungarian Language (Years I-II) **Margit Skadra** *skadra.margit@med.u-szeged.hu* Hungarian Language (Years III-IV) **Marietta Kiss** *kiss.marietta86@gmail.com* Latin based medical terminology **Gergely Brandl** *brandl.gergely@med.u-szeged.hu*	
Institute of Surgical Research	**Dr. Andrea Szabó** +36 62/545 106 *szabo.andrea.exp@med.u-szeged.hu*	**Dr. László Juhász** *juhasz.laszlo.1@med.u-szeged.hu*
Dept. of Medical Biology	**Dr. habil. Dóra Tombácz** +36 62/542 384 *tombacz.dora@med.u-szeged.hu*	**Dr. István Belecz** *belecz.istvan@med.u-szeged.hu*
Dept. of Medical Chemistry	**Dr. Györgyi Váradi** +36 62/545 142 *varadi.gyorgyi@med.u-szeged.hu*	**Dr. Lajos Kovács**
Dept. of Medical Genetics	**Dr. Zsuzsanna László** +36 62/546 127 *laszlo.zsuzsanna@med.u-szeged.hu*	**Dr. Nikoletta Nagy**
Dept. of Medical Physics and Informatics	**Dr. Péter Makra** +36 62/341 291 *makra.peter@med.u-szeged.hu*	**Dr. Ferenc Peták**
Dept. of Medical Microbiology	**Dr. Tímea Mosolygó** +36 62/546 112 *mosolygo.timea@med.u-szeged.hu*	
Dept. of Immunobiology	**Christiana Gules** + 36 62 342 826 *christiana.gules@med.u-szeged.hu* *office.immun@med.u-szeged.hu*	**Dr. Krisztina Buzás Dr. Körmöndiné**
Dept. of Neurology	**Prof. János Tajti** +36 62/545 355 *tajti.janos@med.u-szeged.hu*	**Prof. János Tajti**
Dept. of Neurosurgery	**Dr. Dávid Kis** +36 62/545 383 or 71-880 *kis.david@med.u-szeged.hu*	**Dr. Pál Barzó**
Dept. of Nuclear Medicine	**Tünde Krisztina Polanek** *polanek.tunde.krisztina@med.u-szeged.hu*	**Dr. Zsuzsanna Besenyi**
Dept. of Obstetrics and Gynecology	**Dr. Noémi Tiszlavicz** *tiszlaviczноncsi@yahoo.com* **Dr. Lóránt Csákány** *md.csakany@gmail.com* **Dr. András Molnár** *md.andrasmolnar@gmail.com*	

Dept. of Oncotherapy	**Dr. Gabriella Fábián** +36 62/545 403 *fabian.gabriella@med.u-szeged.hu*	**Dr. Anikó Maráz**
Dept. of Ophthalmology	**Dr. Áron Szabó** +36 62-545-487 *office.opht@med.u-szeged.hu*	**Dr. Edit Tóth-Molnár**
Dept. of Orthopedics	**Dr. Ernest Nagy** *office.orto@med.u-szeged.hu*	**Dr. László Tajti**
Dept. of Oto-Rhino-Laryngology	**Dr. Miklós Csanády** +36 62/545 317 *csanady.miklos@med.u-szeged.hu*	
Dept. of Pathology	**Dr. Anita Sejben** +36/62 546 169 *sejben.anita@med.u-szeged.hu*	**Dr. András Vörös** +36/62 546 171 *voros.andras@med.u-szeged.hu*
Dept. of Pathophysiology	**Dr. Krisztina Anna Csabafi** +36 62/545 789 *csabafi.krisztina@med.u-szeged.hu*	
Dept. of Pediatrics	**Dr. Judit Mari** +36 62/545 330 *office.pedia@med.u-szeged.hu*	**Dr. Pál Pásztor**
Dept. of Child and Adolescent Psychiatry	**Dr. Enikő Kiss** *kiss@gyip.szote.u-szeged.hu*	
Dept. of Pharmacology and Pharmacotherapy	**Dr. Andrea Orosz** +36 62/545 674 *orosz.andrea@med.u-szeged.hu*	**Dr. István Baczkó**
Dept. of Physiology	**Dr. Ferenc Domoki** +36 62/545 100 *domoki.ferenc@med.u-szeged.hu*	**Dr. Ferenc Domoki**
Dept. of Psychiatry	**Dr. Bence András Lázár** lazar.bence.andras@med.u-szeged.hu Deputy-assistant education advisor **Dr. Mihály Újházi** ujhazi.mihaly@med.u-szeged.hu	
Dept. of Public Health (Public Health)	**Dr. Zsuzsanna Máté** +36 62/342 866 *mate.zsuzsanna@med.u-szeged.hu*	**Dr. habil András Papp** +36 62/342 870 *papp.andras@med.u-szeged.hu*
Dept. of Public Health (Medical Sociology)	**Csaba Erdős** +36 62/342 872 *erdos.csaba@med.u-szeged.hu*	**Dr. Regina Molnár** +36 62/342 867 *molnar.regina@med.u-szeged.hu*
Dept. of Pulmonology	**Dr. Barath Kristóf** +36 62/571 552	
Dept. of Radiology	**Dr. Zsigmond Tamás Kincses** *kincses.zsigmond.tamas@med.u-szeged.hu*	**Dr. Erika Vörös**
Dept. of Rheumatology and Immunology	**Dr. Sonja Dulic** *office.reumak@med.u-szeged.hu*	
Dept. of Traumatology	**Dr. László Török** +36 62/545 531 *office.trauma@med.u-szeged.hu*	**Dr. habil Petra Hartmann** +36 62/341-491 *hartmann.petra@med.u-szeged.hu*
Dept. of Urology	**Dr. Király István** + 36 62/341 150 *androkiraly@gmail.com*	**Dr. Bajory Zoltán**

ACADEMIC CALENDAR 2022/2023

ACADEMIC PERIODS

1st (Fall) semester:

Education period:	from September 05 to December 10, 2022
Examination period:	from December 12, 2022 to January 28, 2023
Repeat examination period:	from January 30 to February 04, 2023
Winter break:	from December 24, 2022 to January 01, 2023 (The university is closed. There are no examinations.)
Holidays:	October 23, October 31, November 1, 2022

2nd (Spring) semester:

Education period:	from February 06 to May 13, 2023
Examination period:	from May 15 to June 24, 2023
Repeat Examination period:	from June 26 to July 01, 2023
Spring break:	from April 6 to April 11, 2023
Holidays:	March 15, May 1, May 29, 2023

For other important dates and deadlines, please check the relevant Info Sheet posted on the website of the Foreign Students' Secretariat.

TUITION FEES

Students are required to pay their tuition fee according to the academic year in which they have started their first year studies at the University of Szeged. More: www.med.u-szeged.hu/fs/tuition-fee

In case the students' academic progress does not follow the suggested study plan, tuition fee is calculated according to the following:

Fee of attending three or more compulsory subjects	100% of one semester's tuition fee*
Fee of attending one or two compulsory subjects	max. 50% reduction of one semester's tuition fee can be requested*
Fee of attending solely compulsory elective / elective / criteria subject	max. 50% reduction of one semester's tuition fee can be requested
Fee of taking subject(s) that do not involve class attendance	max. 50% reduction of one semester's tuition fee can be requested

*Examination course fee / compulsory elective / elective / criteria subjects are included!

Make sure that the exact amount of your tuition fee is credited to the University's account. When transferring your tuition fee, please keep in mind that the bank commission charges have to be paid by the student. In the Remarks/Comments field please indicate your legal name, name of the program and your year.

Payment can be made by transfer to the following bank account:

University of Szeged
IBAN: HU94-10004012-10008016-00220332
Bank name: Hungarian State Treasury
(correspondent: Hungarian National Bank, SWIFT code: MANEHUHB)
Bank address: H-1054 Budapest, Hold u. 4.
Swift code: HUSTHUHB

Fees are subject to change. For updates please check the relevant Info Sheet.

GENERAL GUIDELINES

1.) Registration: Students have to **register for each semester** in order to have an active student status. Students who are not registered properly are not entitled to attend the classes.

Registration requirements:

- **Tuition fee** has to be credited to the University's bank account in full before registration.
- Valid **residence permit**. Please check on the NEPTUN (under My Data/ Personal Information / Records) whether you have submitted a copy of your valid residence permit. If it was renewed recently, please present the original and a copy to the Secretariat.
- Valid **health insurance** (If it was renewed recently please present the original and a copy at the Secretariat.)
- **Summer practice** evaluation sheet (if required)
- Settled outstanding balance for **youth hostel fees** and **medical treatment costs**
- Valid **medical fitness certificate** (completed medical check-up by the occupational health doctor)

2.) Payment of the tuition fee: The deadline of payment is always specified in the information sheets published to the students before the beginning of the upcoming semester. Proof of payment has to be submitted to the Secretariat. Students have to make sure that the exact amount of the tuition fee is credited to the University's account until the deadline. Late payment is not possible.

3.) Neptun course registration: Students have to sign up for their courses in the NEPTUN (computer-based academic system) each semester. Students failing to meet this requirement are not entitled to attend the classes. The number of course registrations in a subject is limited: one course can be registered 3 times during the period of studies. Make sure you sign up for all your courses (both the lectures and practices, examination courses, physical education -2 semesters required).

4.) Residence permit

http://www.med.u-szeged.hu/fs/residence-permit/residence-permit-2019

5.) Health Insurance

All students must have a valid health insurance during their stay in Hungary.
http://www.med.u-szeged.hu/fs/medical-treatment-of/medical-treatment-of

6.) Attendance of classes: If the absence does not exceed 15% of the total number of classes, students are not obliged to provide a certificate justifying the absence. If the absence falls between 15% and 25% of the total number of classes, students may only make up for the missed classes if they provide a certificate. The departments have the right to refuse the acceptance of a semester if the student missed more than 25 % of the practicals and did not make up for the absences.

7.) Obligation to report changes to the Secretariat: If there is a change in your personal data (address, e-mail address, telephone number etc.) you are required to *notify the Secretariat and correct the data in the Neptun*.
If you have to leave Szeged for a longer period of time during the lecture period due to substantial reasons (hospitalization, extraordinary family issues), you need to request permission in writing. Applications have to be handed in at the Foreign Students' Secretariat.

8.) General information regarding the examinations:

General information before you sign up for your exams:

- All exams including date, time and place is posted in the NEPTUN.
- Exam dates can be postponed before the NEPTUN closes the registration (*usually* 24 hours before the date of the exam. Clicking the course code, one can determine the closing of registration.) However, it is your duty to secure another date and time for your exam when you make changes.
- Students not showing up on an exam will lose one chance unless their absence is justified.
- A successful examination can be improved only in one subject / semester.

Procedures for unsuccessful exams:

- Repeated exam can be scheduled at the earliest by the 3rd working day following the unsuccessful exam.
- Unsuccessful exams can be repeated 2 times during the exam period. Upon request, a repeated exam can be taken before a committee. The exam committee is appointed by the Department Chair. Repeated exams with committee can be scheduled only for exam dates announced in the Neptun.
- 3rd repeat chance can be granted to those who have **only one exam left**. (In these cases the chances should be decreased by one when students sign up for the course for the 3rd time). Requests have to be handed in at the Foreign Students' Secretariat.
- In the repeat examination period only repeated exams can be taken. First examinations – even with a former absent registration – cannot be taken in the repeat examination week!
- In exceptional cases (hospitalization, extraordinary family issues) further examination chances can be requested from the Dean. Examinations granted as an exceptional equity can be taken only till the end of second week following the repeat examination period. Supporting documents must be attached to the application.

Further details are available in the relevant Info Sheet.

EXPRESSIONS

Compulsory Elective Subject (including Behavioral Science Subjects – only for medical students): There is a given number of credit points that has to be acquired in Compulsory Elective Subjects in the certain modules. One can choose freely from the subjects offered, however it is strongly recommended to follow the Suggested Study Plan.

Compulsory Subject: It is obligatory to take the subject in the module given.

Contact hours: Contact hours are the units of time required for a teacher to present subject material and to assess a student's performance. Contact hours include lectures, seminars, practical demonstrations, consultation hours and assessment.

Course requirement: The course requirement defines the precondition of a certain course. The course requirement can either be a **subject** or an **examination requirement**. In case of the *subject requirement* a course can be signed up for only if the examination defined in the course requirement has been completed successfully. In case of the *examination requirement* the examination of a course can only be taken if the examination defined in the course requirement has been completed successfully.

Credit: Credits are standard measurement of a student's accepted study time. One credit equals thirty hours of study time.

Credit transfer: Is a procedure accorded by the University of Szeged Code of Study and Examination Regulations, whereby a partial or full exemption can be given from completing one or more subjects by acknowledging previously completed subjects and thereby award the appropriate number of credit points.

Criteria Subject: Completion of criteria subjects is a precondition for entering the next module or receiving the diploma after finishing the final year (Physical Training, Summer Practices, Hungarian Language). Criteria subjects have no credit allocated to.

Elective Subject: There is a given number of credit points that has to be acquired in the certain modules. One can choose freely from the subjects offered, however it is strongly recommended to follow the Suggested Study Plan.

Examination course: If one cannot pass an examination successfully in the semester given, the examination can be repeated in the next examination period if the Department concerned announces it in the given semester and you get permission from the Dean. This means that the student will be exempted from fulfilling the requirements of the semester (classes do not have to be attended). An examination course can be taken only once in a certain subject.

Suggested study plan: the order and timing of subjects offered to students enabling them to obtain qualification within a specified period of time.

Term Mark: TM (five-grade system)

Grading system

Five-grade system
5 - excellent
4 - good
3 - accepted
2 - passed
1 - failed

GENERAL INFORMATION REGARDING THE STRUCTURE OF STUDIES AT THE ALBERT SZENT-GYÖRGYI MEDICAL SCHOOL

I. STRUCTURE OF STUDIES

In the academic year 2022/2023, students follow the curriculum/ suggested study plan of University of Szeged, Albert Szent-Györgyi Medical School (9001AK_N_2020) introduced in 2020/2021.

In order to obtain the Doctor of Medicine diploma, students need to acquire a minimum of 360 credits (by fulfilling the study and examination requirements of the subjects listed in the suggested study plan). In the final year, students, furthermore, have to complete the Final (State Board) Examination which consists of writing and defending a thesis, passing a complex written test and an oral patient examination (theoretical and practical part).

The order of taking the courses is set in the suggested study plan which is designed for completing medical studies within 12 semesters (6 years). **It is highly recommended to take the courses according to the Suggested Study Plan.**

Teaching is performed in 4 modules: Basic Module (1st, 2nd year)
Pre-Clinical Module (3rd year)
Clinical Module (4th, 5th year)
Final Module (6th year)

Types of courses: Compulsory Courses
Compulsory Elective Courses
Elective Courses
Criteria Subjects

Credits to be acquired:

	Basic Module (semesters 1-4)	**Pre-Clinical Module (semesters 5-6)**	**Clinical Module (semesters 7-10)**	**Final Module (semesters 11-12)**
	Credits			
Compulsory Courses	97	49	116	50
Compulsory Elective Courses	45*			
Elective Courses	18			
Criteria Subjects (no credits)	Nursing Summer Practice	Internal Medicine Summer Practice	Doctor-Patient Communication, Surgery Summer Practice	
	2 semesters of Physical Education, Hungarian Language courses,			

* This number includes 10 credits for the completion of the fifth year courses Thesis Plan I. & II., the completion of which is compulsory for all the fifth year students.

All the requirements of a module have to be fulfilled in order to enter the next module.

II. SPECIAL RULES FOR BEHAVIORAL SCIENCE SUBJECTS

In the fourth year (8th semester), students have to take a final examination which covers the knowledge, skills and attitudes learned during the seven previous semesters. The precondition for taking the examination is the earlier acquisition of 11 credits from the subjects below. However, it is recommended to complete all Behavioral Science Subjects (13 credits).

Recommended schedule for acquiring 11 credits:

• 9 credits for compulsory subjects:

Introduction to Medicine
(2 credits, year 1, fall semester)

Medical Anthropology
(1 credit, year 2, spring semester)

Ethics in Medicine
(2 credits, year 4, spring semester)

Introduction to Psychology, Communication
(1 credits, year 1, spring semester)

Medical Psychology I.
(2 credits, year 4, fall semester)

Medical Psychology II.
(1 credit, year 4, spring semester)

Examination in Behavioural Science
(0 credit, comprehensive exam, year 4, spring semester)

• 2 credits for compulsory elective subjects. You can choose from the following courses:

Gerontology
(2 credits, year 3, spring semester)

• Criteria subject:

Doctor-Patient Communication
(0 credit, **criteria subject**; year 4, fall or spring semester)

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
1st (fall) semester (9001AK_N_2020)									**BASIC MODULE**
Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** Latin Based Medical Terminology I. and II. have to be completed in the Basic Module. / *** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK011	Basic Life Support	Dept. of Emergency Medicine	Dr. Zoltán Pető	-	2	-	Term Mark(5)	2	-
AOK-OAK021	Anatomy, Histology and Embryology I.	Dept. of Anatomy	Prof. Antal Nógrádi	2	-	-	Examination	5	**P:** AOK-OAK022: Dissection Practice I., AOK-OAK023: Introduction to Histology
AOK-OAK022	Dissection Practice I.	Dept. of Anatomy	Prof. Antal Nógrádi	-	3	-	Term Mark(5)	3	**P:**AOK-OAK021: Anatomy, Histology and Embryology I., AOK-OAK023: Introduction to Histology
AOK-OAK023	Introduction to Histology	Dept. of Anatomy	Prof. Antal Nógrádi	-	Total: 16	-	Signature	-	**P**:AOK-OAK021: Anatomy, Histology and Embryology I., AOK-OAK022: Dissection Practice I.
AOK-OAK041	Introduction to Medicine lecture	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	1	-	-	Evaluation(5)	2	**P**: AOK-OAK042: Introduction to Medicine
AOK-OAK042	Introduction to Medicine practice	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	1	-	Signature	-	**P:** AOK-OAK041: Introduction to Medicine
AOK-OAK101	Medical Physics I. lecture	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	1	-	-	Examination	2	**P:** AOK-OAK103: Measurements in medical physics I., AOK-OAK102: Medical Physics I. seminar
AOK-OAK102	Medical Physics I. seminar	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	-	1	Signature	-	**P:** AOK-OAK103: Measurements in medical physics I., AOK-OAK101: Medical Physics I. lecture
AOK-OAK103	Measurements in medical physics I.	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	1	-	Term Mark(5)	1	**P:** AOK-OAK101 & AOK-OAK102: Medical Physics I. lecture & seminar
AOK-OAK111	Medical Chemistry I. lecture	Dept. of Med. Chemistry	Prof. Tamás Martinek	3	-	-	Examination	6	**P**: AOK-OAK112: Medical Chemistry I.
AOK-OAK112	Medical Chemistry I. practice	Dept. of Med. Chemistry	Prof. Tamás Martinek	-	1	-	Signature	-	**P**: AOK-OAK111: Medical Chemistry I.
AOK-OAK151	Cell Biology and Molecular Genetics I. lecture	Dept. of Med. Biology	Prof. Zsolt Boldogkői	2	-	-	Examination	4	**P**: AOK-OAK152: Cell Biology and Molecular Genetics I.
AOK-OAK152	Cell Biology and Molecular Genetics I. practice	Dept. of Med. Biology	Prof. Zsolt Boldogkői	-	2	-	Signature	-	**P**: AOK-OAK151: Cell Biology and Molecular Genetics I.
AOK-OAK601	Hungarian Language I.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	4	-	Term Mark(5)	-	-
AOK-OAK071	Latin Based Medical Terminology I.**	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Signature	-	-
Neptun search: Other elective subjects Subject name: From the list made available by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))***	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV141	Introduction to Medical Chemistry	Dept. of Med. Chemistry	Prof. Tamás Martinek	1	-	-	Evaluation(5)	2	**P:** AOK-OAKV142: Introduction to Medical Chemistry
AOK-OAKV142	Introduction to Medical Chemistry	Dept. of Med. Chemistry	Prof. Tamás Martinek	-	1	-	Signature	-	**P:** AOK-OAKV141: Introduction to Medical Chemistry
AOK-OAKV021	Basics in Molecular Biology I.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV211	Cytomorphology and Microtechnics	Dept. of Cell Biology and Molecular Medicine	Dr. Eszter Farkas	2	-	-	Evaluation(5)	2	-
AOK-OAKV231	Developmental Genetics I.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV031	Frontiers of Molecular Biology I.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	2	-	-	Evaluation(5)	2	-
AOK-OAKV311	Genetic Analysis I.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV251	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	2	-	-	Evaluation(5)	2	**P:** AOK-OAKV252: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV252	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	Total: 6	-	Signature	-	**P:** AOK-OAKV251: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV481	Introduction to Medical Informatics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	1	-	-	Evaluation(5)	3	**P:** AOK-OAKV482: Introduction to Medical Informatics
AOK-OAKV482	Introduction to Medical Informatics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	2	-	Signature	-	**P**: AOK-OAKV481: Introduction to Medical Informatics
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZV191	Fundamentals of medical physics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	-	Total: 16	Evaluation(5)	1	-
AOK-OASZV761	Academic English for medical students I.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
2nd (spring) semester (9001AK_N_2020)									**BASIC MODULE**
Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** Latin Based Medical Terminology I. and II. have to be completed in the Basic Module. / *** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK024	Anatomy, Histology and Embryology II.	Dept. of Anatomy	Prof. Antal Nógrádi	2	-	-	Examination	3	**ER**: AOK-OAK021: Anatomy, Histology and Embryology I. **P**: AOK-OAK025: Dissection Practice II., AOK-OAK026: Histology Practice I.
AOK-OAK025	Dissection Practice II.	Dept. of Anatomy	Prof. Antal Nógrádi	-	3	-	Term Mark(5)	3	**SR:** AOK-OAK022: Dissection Practice I., AOK-OAK023: Introduction to Histology, **P:** AOK-OAK024: Anatomy, Histology and Embryology II.
AOK-OAK026	Histology Practice I.	Dept. of Anatomy	Prof. Antal Nógrádi	-	2	-	Term Mark(5)	2	**SR:** AOK-OAK022: Dissection Practice I., AOK-OAK023: Intorduction to Histology, **P:** AOK-OAK024: Anatomy, Histology and Embryology II.
AOK-OAK104	Medical Physics II. lecture	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Examination	3	**ER:** AOK-OAK101 & AOK-OAK102: Medical Physics I. lecture & seminar **P:** AOK-OAK106: Measurements in medical physics II., AOK-OAK105: Medical Physics II. seminar
AOK-OAK105	Medical Physics II. seminar	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	-	1	Signature	-	**P**: AOK-OAK106: Measurements in medical physics II., AOK-OAK104: Medical Physics II. lecture
AOK-OAK106	Measurements in medical physics II.	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	1	-	Term Mark(5)	1	**P**: AOK-OAK104 & AOK-OAK105: Medical Physics II. lecture & seminar
AOK-OAK107	Medical Statistics lecture	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	1	-	-	Examination	1	**P**: AOK-OAK108: Medical Statistics
AOK-OAK108	Medical Statistics practice	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	2	-	Term Mark(5)	2	**P:** AOK-OAK107: Medical Statistics
AOK-OAK113	Medical Chemistry II. lecture	Dept. of Med. Chemistry	Prof. Tamás Martinek	3	-	-	Examination	6	**ER**: AOK-OAK111: Medical Chemistry I. **P**: AOK-OAK114: Medical Chemistry II.
AOK-OAK114	Medical Chemistry II. practice	Dept. of Med. Chemistry	Prof. Tamás Martinek	-	3	-	Signature	-	**P:** AOK-OAK113: Medical Chemistry II.
AOK-OAK131	Introduction to Psychology, Communication lecture	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	Total 7 (7*1)	-	-	Evaluation(5)	1	**P:** AOK-OAK132: Introduction to Psychology, Communication
AOK-OAK132	Introduction to Psychology, Communication practice	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 14 (7*2)	-	Signature	-	**P:** AOK-OAK131: Introduction to Psychology, Communication
AOK-OAK153	Cell Biology and Molecular Genetics II. lecture	Dept. of Med. Biology	Prof. Zsolt Boldogkői	2	-	-	Examination	4	**ER**: AOK-OAK151: Cell Biology and Molecular Genetics I. **P**: AOK-OAK154: Cell Biology and Molecular Genetics II.
AOK-OAK154	Cell Biology and Molecular Genetics II. practice	Dept. of Med. Biology	Prof. Zsolt Boldogkői	-	2	-	Signature	-	**P:** AOK-OAK153: Cell Biology and Molecular Genetics II.
AOK-OAK602	Hungarian Language II.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	4	-	Term Mark(5)	-	**SR**: AOK-OAK601: Hungarian Language I.
AOK-OAK072	Latin Based Medical Terminology II.**	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Signature	-	**SR**: AOK-OAK071: Latin Based Medical Terminology I.
AOK-OAK031	Nursing Practice*	-	-	-	Total: 120	-	Signature	-	-
Neptun search: Other elective subjects Subject name: From the list made available by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))***	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV022	Basics in Molecular Biology II.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV232	Developmental Genetics II.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV032	Frontiers in Molecular Biology II.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	2	-	-	Evaluation(5)	2	-
AOK-OAKV312	Genetic Analysis II.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV011	Modern Instrumental Analysis and Separation Methods	Dept. of Med. Chemistry	Prof. Tamás Martinek	1	-	-	Evaluation(5)	1	-
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZV411	Chemical Misconceptions	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	-
AOK-OASZV711	Medical Hungarian Language I. - English Program I. year	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	Total: 14	-	Term Mark(5)	1	-
AOK-OASZV551	Medical physics remedial course	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	-	Total: 14	Term Mark(5)	1	-
AOK-OASZV731	Dissection room consultation	Dept. of Anatomy	Prof. Antal Nógrádi	-	2	-	Signature	-	**SR:** successful completion of Dissection Practice II. in a previous semester, **P**: Anatomy, Histology and Embryology II.
AOK-OASZV762	Academic English for medical students II.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-ONKV661	Berufsfelderkundung****	Dept. Of Behav. Sciences	Dr. Oguz Kelemen	-	1	-	Term Mark(5)	1	-

**** Supplementary course/examination for students working towards obtaining the "Physikum" certificate. The language of instruction is German. You can take it only if you are fluent in German (advanced, C1 level is required).

3rd (fall) semester (9001AK_N_2020) **BASIC MODULE**

Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK027	Anatomy, Histology and Embryology III.	Dept. of Anatomy	Prof. Antal Nógrádi	2	-	-	Comprehensive Exam	3	**SR**: AOK-OAK025: Dissection Practice II., AOK-OAK026: Histology Practice I. **ER**: AOK-OAK024: Anatomy, Histology and Embryology II. **P**: AOK-OAK028: Dissection Practice III. , AOK-OAK029: Histology Practice II.
AOK-OAK028	Dissection Practice III.	Dept. of Anatomy	Prof. Antal Nógrádi	-	3	-	Term Mark(5)	3	**SR:** AOK-OAK025: Dissection Practice II., AOK-OAK026: Histology Practice I. **P:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK029: Histology Practice II.
AOK-OAK029	Histology Practice II.	Dept. of Anatomy	Prof. Antal Nógrádi	-	2	-	Term Mark(5)	2	**SR:** AOK-OAK025: Dissection Practice II., AOK-OAK026: Histology Practice I. **P**: AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK028: Dissection Practice III.
AOK-OAK051	Biochemistry I. lecture	Dept. of Biochemistry	Dr. Tamás Csont	4	-	-	Examination	6	**SR**: AOK-OAK113 Medical Chemistry II., **ER:** AOK-OAK153: Cell Biology and Molecular Genetics II. **P:** AOK-OAK052: Biochemistry I.
AOK-OAK052	Biochemistry I. practice	Dept. of Biochemistry	Dr. Tamás Csont	-	2	-	Signature	-	**P:** AOK-OAK051: Biochemistry I.
AOK-OAK091	Medical Physiology I. lecture	Dept. of Physiology	Prof. Gyula Sáry	4	-	-	Examination	8	**SR:** AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK153 & AOK-OAK154: Cell Biology and Molecular Genetics II., **ER:** AOK-OAK024: Anatomy, Histology and Embryology II. **P:** AOK-OAK092: Medical Physiology I.
AOK-OAK092	Medical Physiology I. practice	Dept. of Physiology	Prof. Gyula Sáry	-	4	-	Signature	-	**P**: AOK-OAK091: Medical Physiology I.
AOK-OAK121	Medical Sociology seminar	Dept. of Public Health	Dr. Edit Paulik	-	-	2	Examination	2	-
AOK-OAK603	Hungarian Language III.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	4	-	Term Mark(5)	-	**SR**: AOK-OAK602: Hungarian Language II.
Neptun search: Other elective subjects Subject name: From the list made avaable by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))**	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV261	Medical Physiology (Seminar) I.	Dept. of Physiology	Prof. Gyula Sáry	-	-	4	Evaluation(5)	4	**P**: AOK-OAK091: Medical Physiology I.
AOK-OAKV251	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	2	-	-	Evaluation(5)	2	**P:** AOK-OAKV252: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV252	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	Total: 6	-	Signature	-	**P:** AOK-OAKV251: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV231	Developmental Genetics I.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZV631	Body Development and Diseases and a Molecular Biological Background	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	-
AOK-OASZV731	Dissection room consultation	Dept. of Anatomy	Prof. Antal Nógrádi	-	2	-	Signature	-	**SR:** successful completion of Dissection Practice I. or III. in a previous semester, **P**: Anatomy, Histology and Embryology I. or III.
AOK-OASZV761	Academic English for medical students I.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-ONKV671	Einführung in die klinische Medizin***	Dept. Of Surgery	Prof. György Lázár	-	2	-	Term Mark(5)	2	-
AOK-ONKV691	Terminologie***	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Signature	1	-

*** Supplementary course/examination for students working towards obtaining the "Physikum" certificate. The language of instruction is German. You can take it only if you are fluent in German (advanced, C1 level is required).

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
4th (spring) semester (9001AK_N_2020)									**BASIC MODULE**
Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK053	Biochemistry II. lecture	Dept. of Biochemistry	Dr. Tamás Csont	4	-	-	Comprehensive Exam	6	**ER**: AOK-OAK051: Biochemistry I., **P:** AOK-OAK054: Biochemistry II.
AOK-OAK054	Biochemistry II. practice	Dept. of Biochemistry	Dr. Tamás Csont	-	2	-	Signature	-	**P:** AOK-OAK053: Biochemistry II.
AOK-OAK061	Immunology	Dept. of Immunology	Dr. Krisztina Buzás	2	-	-	Examination	2	**SR**: AOK-OAK024: Anatomy, Histology and Embryology II. AOK-OAK025: Dissection Practice II., AOK-OAK026: Histology I., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113 & AOK-OAK114: Medical Chemistry II. **ER**: AOK-OAK027: Anatomy, Histology and Embryology III.
AOK-OAK081	Medical Anthropology Seminar	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	-	Total 14 (7*2)	Evaluation(5)	1	**SR**: AOK-OAK041 & AOK-OAK042: Introduction to Medicine
AOK-OAK093	Medical Physiology II. lecture	Dept. of Physiology	Prof. Gyula Sáry	6	-	-	Comprehensive Exam	10	**ER:** AOK-OAK091: Medical Physiology I., **P**: AOK-OAK094: Medical Physiology II.
AOK-OAK094	Medical Physiology II. practice	Dept. of Physiology	Prof. Gyula Sáry	-	4	-	Signature	-	**P**: AOK-OAK093: Medical Physiology II.
AOK-OAK141	Basic Surgical Skills lecture	Inst. of Surgical Research	Prof. Mihály Boros	1	-	-	Examination	3	**P**: AOK-OAK142: Basic Surgical Skills
AOK-OAK142	Basic Surgical Skills practice	Inst. of Surgical Research	Prof. Mihály Boros	-	2	-	Signature	-	**P**: AOK-OAK141: Basic Surgical Skills
AOK-OAK604	Hungarian Language IV.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	4	-	Prel.Exam	-	**SR**: AOK-OAK603: Hungarian Language III.
Neptun search: Other elective subjects Subject name: From the list made available by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))**	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV631	Human Embryology: Development of the Organ Systems	Dept. of Anatomy	Prof. Antal Nógrádi	2	-	-	Evaluation(5)	2	**ER**: AOK-OAK027: Anatomy, Histology and Embryology III.
AOK-OAKV262	Medical Physiology (Seminar) II.	Dept. of Physiology	Prof. Gyula Sáry	-	-	4	Evaluation(5)	4	**P:** AOK-OAK093: Medical Physiology II.
AOK-OAKV151	Biochemistry: Selected Chapters from Medical Biochemistry	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	**P:** AOK-OAK053: Biochemistry II.
AOK-OAKV441	Molecular Developmental-Biology	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	**SR**: AOK-OAK153: Cell Biology and Molecular Genetics II.
AOK-OAKV581	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	1	-	-	Evaluation(5)	2	**P:** AOK-OAKV582: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV582	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	1	-	Signature	-	**P:** AOK-OAKV581: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV051	Biochemical Basics of Preventive Medicine	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	**SR**: AOK-OAK051: Biochemistry I.
AOK-OAKV232	Developmental Genetics II.	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV361	How to learn Biochemistry?	Dept. of Biochemistry	Dr. Tamás Csont	-	-	2	Evaluation(5)	1	**SR:** AOK-OAK113: Medical Chemistry II.
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZV431	Clinical Anatomy	Dept. of Anatomy	Prof. Antal Nógrádi	-	3	-	Term Mark(5)	3	**SR:** AOK-OAK028: Dissection Practice III., AOK-OAK029: Histology Practice II.
AOK-OASZV291	Mathematical and Statistical Modelling in Medicine Lecture	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, **P:** AOK-OASZV292: Mathematical and Statistical Modelling in Medicine Lecture
AOK-OASZV292	Mathematical and Statistical Modelling in Medicine Practice	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	1	-	Signature	-	**P:** AOK-OASZV291: Mathematical and Statistical Modelling in Medicine Lecture
AOK-OASZV762	Academic English for medical students II.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-ONK133	Grundbegriffe in der Psychologie***	Dept. of Behav. Sciences	Dr. Oguz Kelemen	-	-	-	Comprehensive Exam	2	-
AOK-ONK123	Medizinische Soziologie Rigorosum***	Dept. of Public Health	Dr. Edit Paulik	-	-	-	Comprehensive Exam	2	-

*** Supplementary course/examination for students working towards obtaining the "Physikum" certificate. The language of instruction is German. You can take it only if you are fluent in German (advanced, C1 level is required).

*****Without the completion of the every compulsory subject in the first and the second year (=every compulsory subject above except physical education) you cannot take any compulsory subject from the pre-clinical module (third year) below.*****

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

5th (fall) semester (9001AK_N_2020) **PRE-CLINICAL MODULE**

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK181	Basic Principles of Internal Medicine (Basics of Haematology) lecture	Dept. of Internal Medicine	Prof. Csaba Lengyel	2	-	-	Examination	4	**P**: AOK-OAK182: Basic Principles of Internal Medicine (Basics of Haematology)
AOK-OAK182	Basic Principles of Internal Medicine (Basics of Haematology) practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	2	-	Signature	-	**P**: AOK-OAK181: Basic Principles of Internal Medicine (Basics of Haematology)
AOK-OAK201	Pathophysiology I. lecture	Dept. of Pathophysiology	Prof. Zoltán Rakonczay	3	-	-	Examination	5	**P**: AOK-OAK202: Pathophysiology I.
AOK-OAK202	Pathophysiology I. practice	Dept. of Pathophysiology	Prof. Zoltán Rakonczay	-	2	-	Signature	-	**P**: AOK-OAK201: Pathophysiology I.
AOK-OAK211	Microbiology I. lecture	Dept. of Med. Microbiology	Dr. habil Katalin Burián	3	-	-	Examination	5	**P**: AOK-OAK212: Microbiology I.
AOK-OAK212	Microbiology I. practice	Dept. of Med. Microbiology	Dr. habil Katalin Burián	-	2	-	Signature	-	**P**: AOK-OAK211: Microbiology I.
AOK-OAK221	Pathology I. lecture	Dept. of Pathology	Prof. László Tiszlavicz	3	-	-	Examination	6	**P**: AOK-OAK222: Pathology I.
AOK-OAK222	Pathology I. practice	Dept. of Pathology	Prof. László Tiszlavicz	-	3	-	Signature	-	**P:** AOK-OAK221: Pathology I.
AOK-OAK605	Hungarian Language V.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	3	-	Term Mark(5)	-	**SR:** AOK-OAK604: Hungarian Language IV.
Neptun search: Other elective subjects Subject name: From the list made available by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))**	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV351	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV352: Advanced Surgical Skills
AOK-OAKV352	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	-	1	-	Signature	-	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV351: Advanced Surgical Skills
AOK-OAKV431	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	Total: 8	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II., AOK-OAK141 & 142: Basic Surgical Skills, **P:** AOK-OAKV432: Microsurgery
AOK-OAKV432	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	-	Total: 20	-	Signature	-	**P:** AOK-OAKV431: Microsurgery
AOK-OAKV451	Molecular Medicine	Dept. of Cell Biology and Molecular Medicine	Dr. Eszter Farkas	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II.
AOK-OAKV071	Pathophysiology of Sepsis at the Bedside	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	1	-	-	Evaluation(5)	1	**SR:** AOK-OAK093: Medical Physiology II.
AOK-OAKV251	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	2	-	-	Evaluation(5)	2	**P:** AOK-OAKV252: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV252	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	Total: 6	-	Signature	-	**P:** AOK-OAKV251: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZVD	Demonstrator Activity	The Dept. where the student's demonstrator activity application was accepted		-	2	-	Evaluation(5)	2	**SR:** AOK-OAK024: Anatomy, Histology and Embryology II., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113: Medical Chemistry II., AOK-OAK153: Cell Biology and Molecular Genetics II., AOK-OAK031: Nursing Practice
AOK-OASZV631	Body Development and Diseases and a Molecular Biological Background	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	-
AOK-OASZV301	Cerebral Blood Flow and Metabolism	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK091: Medical Physiology I.
AOK-OASZV721	Intensive Preparatory Medical Hungarian	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	-	Total: 30	Term Mark(5)	2	-

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	Precondition (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
6th (spring) semester (9001AK_N_2020)									**PRE-CLINICAL MODULE**
Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK161	Internal Medicine I. lecture	Dept. of Internal Medicine	Prof. Csaba Lengyel	3	-	-	Examination	4	**ER:** AOK-OAK181: Basic Principles of Internal Medicine (Basics of Haematology), **P:** AOK-OAK162: Internal Medicine I.
AOK-OAK162	Internal Medicine I. practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	2	-	Signature	-	**P:** AOK-OAK161: Internal Medicine I.
AOK-OAK191	Pharmacology and pharmacotherapy I. lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	3	-	-	Examination	5	**ER:** AOK-OAK201: Pathophysiology I., AOK-OAK221: Pathology I., AOK-OAK211: Microbiology I., **P:** AOK-OAK192: Pharmacology and pharmacotherapy I.
AOK-OAK192	Pharmacology and pharmacotherapy I. practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	2	-	Signature	-	**P:** AOK-OAK191: Pharmacology and pharmacotherapy I.
AOK-OAK203	Pathophysiology II. lecture	Dept. of Pathophysiology	Prof. Zoltán Rakonczay	3	-	-	Comprehensive Exam	5	**ER:** AOK-OAK201: Pathophysiology I., **P:** AOK-OAK204: Pathophysiology II.
AOK-OAK204	Pathophysiology II. practice	Dept. of Pathophysiology	Prof. Zoltán Rakonczay	-	2	-	Signature	-	**P:** AOK-OAK203: Pathophysiology II.
AOK-OAK213	Microbiology II. lecture	Dept. of Med. Microbiology	Dr. habil Katalin Burián	3	-	-	Comprehensive Exam	5	**ER:** AOK-OAK211: Microbiology I., **P:** AOK-OAK214: Microbiology II.
AOK-OAK214	Microbiology II. practice	Dept. of Med. Microbiology	Dr. habil Katalin Burián	-	2	-	Signature	-	**P:** AOK-OAK213: Microbiology II.
AOK-OAK223	Pathology II. lecture	Dept. of Pathology	Prof. László Tiszlavicz	2	-	-	Comprehensive Exam	6	**ER:** AOK-OAK221: Pathology I., **P:** AOK-OAK224: Pathology II.
AOK-OAK224	Pathology II. practice	Dept. of Pathology	Prof. László Tiszlavicz	-	4	-	Signature	-	**P:** AOK-OAK223: Pathology II.
AOK-OAK231	Surgical Propedeutics lecture	Dept. of Surgery	Prof. György Lázár	2	-	-	Examination	4	**P:** AOK-OAK232: Surgical Propedeutics
AOK-OAK232	Surgical Propedeutics practice	Dept. of Surgery	Prof. György Lázár	-	2	-	Signature	-	**P:** AOK-OAK231: Surgical Propedeutics
AOK-OAK606	Hungarian Language VI.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	3	-	Term Mark(5)	-	**SR:** AOK-OAK605: Hungarian Language V.
AOK-OAK171	Internal Medicine Summer Practice*	-	-	-	Total: 120	-	Signature	-	**P:** AOK-OAK161: Internal Medicine I.
Neptun search: Other elective subjects Subject name: From the list made avaible by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))**	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV351	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV352: Advanced Surgical Skills
AOK-OAKV352	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	-	1	-	Signature	-	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV351: Advanced Surgical Skills
AOK-OAKV441	Molecular Developmental-Biology	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK153: Cell Biology and Molecular Genetics II.
AOK-OAKV421	Microbiological Probems in Med. Practice	Dept. of Med. Microbiology	Dr. habil Katalin Burián	1	-	-	Evaluation(5)	1	**ER:** AOK-OAK211: Microbiology I.
AOK-OAKV431	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	Total: 8	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II., AOK-OAK141: Basic Surgical Skills, **P:** AOK-OAKV432: Microsurgery
AOK-OAKV432	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	-	Total: 20	-	Signature	-	**P:** AOK-OAKV431: Microsurgery
AOK-OAKV271	Pharmacology Cases I.	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	2	-	Evaluation(5)	2	-
AOK-OAKV411	Pathophysiological Aspects of Laboratory Medicine	Dept. of Laboratory Medicine	Dr. Földesi Imre	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK201: Pathophysiology I.
AOK-OAKV321	Gerontology	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK041 & AOK-OAK042: Introduction to Medicine **P:** AOK-OAKV322: Gerontology
AOK-OAKV322	Gerontology	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	1	-	Signature	-	**P:** AOK-OAKV321: Gerontology
AOK-OAKV181	Foundations of Evidence Based Medicine	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK121: Medical Sociology, AOK-OAK101 & AOK-OAK102 & AOK-OAK103: Medical Physics I.
AOK-OAKV581	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	1	-	-	Evaluation(5)	2	**P:** AOK-OAKV582: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV582	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	1	-	Signature	-	**P:** AOK-OAKV581: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV051	Biochemical Basics of Preventive Medicine	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	-
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZVD	Demonstrator Activity	The Dept. where the student's demonstrator activity application was accepted		-	2	-	Evaluation(5)	2	**SR:** AOK-OAK024: Anatomy, Histology and Embryology II., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113: Medical Chemistry II., AOK-OAK153: Cell Biology and Molecular Genetics II., AOK-OAK031: Nursing Practice
AOK-OASZV171	Basic Immunpathology	Inst. of Surgical Research	Prof. Mihály Boros	1	-	-	Evaluation(5)	1	**SR:** AOK-OAK211: Microbiology I.
AOK-OASZV241	Biotechnology from a Business Perspective	Dept. of Biotechnology	Prof. Kornél Kovács L.	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK153: Cell Biology and Molecular Genetics II.
AOK-OASZV411	Chemical Misconceptions	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	-
AOK-OASZV291	Mathematical and Statistical Modelling in Medicine Lecture	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, **P:** AOK-OASZV292: Mathematical and Statistical Modelling in Medicine Lecture
AOK-OASZV292	Mathematical and Statistical Modelling in Medicine Practice	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	-	1	-	Signature	-	**P:** AOK-OASZV291: Mathematical and Statistical Modelling in Medicine Lecture
AOK-OASZV221	Introduction to Toxicology	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK053: Biochemistry II., AOK-OAK093: Medical Physiology II.
AOK-OASZV771	3D printing in life sciences	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	-

*****Without the completion of the every compulsory subject in the pre-clinical module (except physical education) you cannot take any compulsory subject from the clinical module below.*****

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

7th (fall) semester (9001AK_N_2020) **CLINICAL MODULE**

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	Precondition (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
Compulsory Subjects (** The completion of the course is obligatory in the semester given. / ** Only half of the 4th year students can register in each semester. / *** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.*)									
AOK-OAK271	Internal Medicine II. lecture	Dept. of Internal Medicine	Prof. Csaba Lengyel	4	-	-	Examination	5	**P:** AOK-OAK272: Internal Medicine II.
AOK-OAK272	Internal Medicine II. practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	2	-	Signature	-	**P:** AOK-OAK271: Internal Medicine II.
AOK-OAK291	Pharmacology and pharmacotherapy II. lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	4	-	-	Comprehensive Exam	5	**ER:** AOK-OAK191: Pharmacology and pharmacotherapy I., **P:** AOK-OAK292: Pharmacology and pharmacotherapy II.
AOK-OAK292	Pharmacology and pharmacotherapy II. practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	2	-	Signature	-	**P:** AOK-OAK291: Pharmacology and pharmacotherapy II.
AOK-OAK371	Public Health and Preventive Medicine I. lecture	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Examination	3	**P:** AOK-OAK372: Public Health and Preventive Medicine I.
AOK-OAK372	Public Health and Preventive Medicine I. practice	Dept. of Public Health	Dr. Edit Paulik	-	2	-	Signature	-	**P:** AOK-OAK371: Public Health and Preventive Medicine I.
AOK-OAK391	Orthopedics lecture	Dept. of Orthopedics	Dr. Krisztián Sisák	2	-	-	Examination	3	**P:** AOK-OAK392: Orthopedics
AOK-OAK392	Orthopedics practice	Dept. of Orthopedics	Dr. Krisztián Sisák	-	2	-	Signature	-	**P:** AOK-OAK391: Orthopedics
AOK-OAK421	Medical Psychology I. lecture	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	Total 5 (5*1)	-	-	Evaluation(5)	2	**P:** AOK-OAK422: Medical Psychology I.
AOK-OAK422	Medical Psychology I. practice	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 20 (10*2)	-	Signature	-	**P:** AOK-OAK421: Medical Psychology I.
AOK-OAK451	Pulmonology lecture	Dept. of Pulmonolgy	Dr. Csaba Máthé	1	-	-	Examination	2	**P:** AOK-OAK452: Pulmonology
AOK-OAK452	Pulmonology practice	Dept. of Pulmonolgy	Dr. Csaba Máthé	-	2	-	Signature	-	**P:** AOK-OAK451: Pulmonology
AOK-OAK461	Radiology I. lecture	Dept. of Radiology	Dr. Kincses Zsigmond Tamás	1	-	-	Evaluation(5)	2	**P:** AOK-OAK462: Radiology I.
AOK-OAK462	Radiology I. practice	Dept. of Radiology	Dr. Kincses Zsigmond Tamás	-	1	-	Signature	-	**P:** AOK-OAK461: Radiology I.
AOK-OAK471	Surgery I. lecture	Dept. of Surgery	Prof. György Lázár	2	-	-	Evaluation(5)	3	**P:** AOK-OAK472: Surgery I.
AOK-OAK472	Surgery I. practice	Dept. of Surgery	Prof. György Lázár	-	2	-	Signature	-	**P:** AOK-OAK471: Surgery I.
AOK-OAK501	Obstetrics and Gynaecology I. lecture	Dept. of Obstetrics and G.	Dr. Gábor Németh	3	-	-	Examination	4	**P:** AOK-OAK502: Obstetrics and Gynaecology I.
AOK-OAK502	Obstetrics and Gynaecology I. practice	Dept. of Obstetrics and G.	Dr. Gábor Németh	-	2	-	Signature	-	**P:** AOK-OAK501: Obstetrics and Gynaecology I.
AOK-OAK607	Hungarian Language VII.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	3	-	Term Mark(5)	-	-
AOK-OAK401	Doctor-Patient Communication**	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	-	2	Signature	-	**ER:** AOK-OAK421: Medical Psychology I.
AOK-OAK505	Delivery-Room**	Dept. of Obstetrics and G.	Dr. Gábor Németh	-	Total: 72	-	Signature	-	**P:** AOK-OAK501: Obstetrics and Gynaecology I.
Neptun search: Other elective subjects Subject name: From the list made avaiable by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))***	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV161	Basic Biostatistics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	-
AOK-OAKV131	Introduction to Aviation and Space Medicine	Dept. of Aviation and Space Medicine	Prof. Sándor Szabó	2	-	-	Evaluation(5)	2	-
AOK-OAKV641	Medical Informatics I.	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	-
AOK-OAKV491	Medical Molecular Biology and Genomics	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV431	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	Total: 8	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II., AOK-OAK141: Basic Surgical Skills, **P:** AOK-OAKV432: Microsurgery
AOK-OAKV432	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	-	Total: 20	-	Signature	-	**P:** AOK-OAKV431: Microsurgery
AOK-OAKV471	Nuclear Medicine	Dept. of Nuclear Med.	Prof. László Pávics	1	-	-	Evaluation(5)	1	-
AOK-OAKV272	Pharmacology Cases II.	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	2	-	Evaluation(5)	2	**SR:** AOK-OAKV271: Pharmacology Cases I.
AOK-OAKV621	The Language of Effective Doctor-Patient Communication I.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-OAKV251	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	2	-	-	Evaluation(5)	2	**P:** AOK-OAKV252: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV252	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	Total: 6	-	Signature	-	**P:** AOK-OAKV251: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV661	Neuropathological basis of clinical neurosciences	Dept. of Pathology	Prof. László Tiszlavicz	-	-	2	Term Mark(5)	2	**SR**: AOK-OAK223: Pathology II. lecture
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZV011	Self management support for patients with chronic conditions	Dept. of Medical Rehabiliation and Physical Medicine	Dr. István Kósa	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK181 & AOK-OAK182: Basic Principles of Internal Medicine
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZVD	Demonstrator Activity	The Dept. where the student's demonstrator activity application was accepted		-	2	-	Evaluation(5)	2	**SR:** AOK-OAK024: Anatomy, Histology and Embryology II., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113: Medical Chemistry II., AOK-OAK153: Cell Biology and Molecular Genetics II., AOK-OAK031: Nursing Practice
AOK-OASZVT	Student Science Study Group	The Dept. where the student's Student Science Study Group application was accepted		-	-	1	Evaluation(5)	2	-
AOK-OASZV671	Tropical Medicine	Dept. of Psychiatry	Prof. János Kálmán	2	-	-	Evaluation(5)	2	-
AOK-OASZV751	Basics of Self-Knowledge in Professional Orientation	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 12	-	Term Mark(5)	1	-

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
8th (spring) semester (9001AK_N_2020)									**CLINICAL MODULE**
Compulsory Subjects *(* The completion of the course is obligatory in the semester given. / ** Only half of the 4th year students can register in each semester. / *** 2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK241	Introduction to the approach to the critically ill patient-the basic bedside clinical skills lecture	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	1	-		Signature	-	**ER:** AOK-OAK271: Internal Medicine II., **P:** AOK-OAK242: Introduction to the approach to the critically ill patient-the basic bedside clinical skills practice
AOK-OAK242	Introduction to the approach to the critically ill patient-the basic bedside clinical skills practice	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	-	2		Term Mark(5)	2	**P:** AOK-OAK241: Introduction to the approach to the critically ill patient-the basic bedside clinical skills lecture
AOK-OAK273	Internal Medicine III. lecture	Dept. of Internal Medicine	Prof. Csaba Lengyel	5	-	-	Examination	5	**ER:** AOK-OAK271: Internal Medicine II., **P:** AOK-OAK274: Internal Medicine III.
AOK-OAK274	Internal Medicine III. practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	2	-	Signature	-	**P:** AOK-OAK273: Internal Medicine III.
AOK-OAK341	Clinical Genetics and Genomics	Dept. of Medical Genetics	Prof. Márta Széll	1	-	-	Evaluation(5)	1	**ER:** AOK-OAK273: Internal Medicine III.
AOK-OAK351	Clinical Oncology	Dept. of Oncotherapy	Prof. Judit Oláh	2	-	-	Examination	2	-
AOK-OAK373	Public Health and Preventive Medicine II. lecture	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Comprehensive Exam	3	**ER:** AOK-OAK371: Public Health and Preventive Medicine I., **P:** AOK-OAK374: Public Health and Preventive Medicine II.
AOK-OAK374	Public Health and Preventive Medicine II. practice	Dept. of Public Health	Dr. Edit Paulik	-	2	-	Signature	-	**P:** AOK-OAK373: Public Health and Preventive Medicine II.
AOK-OAK411	Ethics in Medicine lecture	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	Total 7 (7*1)	-	-	Signature	-	**P**: AOK-OAK412: Ethics in Medicine
AOK-OAK412	Ethics in Medicine practice	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total: 20 (10*2)	-	Term Mark(5)	2	**P**: AOK-OAK411: Ethics in Medicine
AOK-OAK431	Medical Psychology II. lecture	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	Total 5 (5*1)	-	-	Signature	-	**P:** AOK-OAK432: Medical Psychology II.
AOK-OAK432	Medical Psychology II. practice	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 15 (5*3)	-	Term Mark(5)	1	**ER:** AOK-OAK421: Medical Psychology I., **P:** AOK-OAK431: Medical Psychology II.
AOK-OAK463	Radiology II. lecture	Dept. of Radiology	Dr. Kincses Zsigmond Tamás	1	-	-	Examination	2	**ER:** AOK-OAK461: Radiology I., **P:** AOK-OAK464: Radiology II.
AOK-OAK464	Radiology II. practice	Dept. of Radiology	Dr. Kincses Zsigmond Tamás	-	1	-	Signature	-	**P:** AOK-OAK463: Radiology II.
AOK-OAK473	Surgery II. lecture	Dept. of Surgery	Prof. György Lázár	2	-	-	Examination	3	**ER:** AOK-OAK471: Surgery I., **P:** AOK-OAK474: Surgery II.
AOK-OAK474	Surgery II. practice	Dept. of Surgery	Prof. György Lázár	-	2	-	Signature	-	**P:** AOK-OAK473: Surgery II.
AOK-OAK503	Obstetrics and Gynaecology II. lecture	Dept. of Obstetrics and G.	Dr. Gábor Németh	3	-	-	Evaluation(5)	4	**ER:** AOK-OAK501: Obstetrics and Gynaecology I., **P:** AOK-OAK504: Obstetrics and Gynaecology II.
AOK-OAK504	Obstetrics and Gynaecology II. practice	Dept. of Obstetrics and G.	Dr. Gábor Németh	-	2	-	Signature	-	**P:** AOK-OAK503: Obstetrics and Gynaecology II.
AOK-OAK611	Family Medicine	Dept. of Family Medicine	Prof. Albert Varga	2	-	-	Examination	2	-
AOK-OAK608	Hungarian Language VIII.*	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	3	-	Comprehensive Exam	-	**SR:** AOK-OAK607: Hungarian Language VII.
AOK-OAK481	Surgery Summer Practice*	-	-	-	Total: 120	-	Signature	-	-
AOK-OAK401	Doctor-Patient Communication**	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	-	2	Signature	-	**SR:** AOK-OAK421: Medical Psychology I.
AOK-OAK505	Delivery-Room**	Dept. of Obstetrics and G.	Dr. Gábor Németh	-	Total: 72	-	Signature	-	**P:** AOK-OAK503: Obstetrics and Gynaecology II.
AOK-OAK361	Examination in Behavioural Sciences*	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	-	-	Comprehensive Exam	-	**ER**: AOK-OAK421-422: Medical Psychology I., AOK-OAK431-432: Medical Psychology II., AOK-OAK411-412: Ethics in Medicine, AOK-OAK401: Doctor-Patient Communication
Neptun search: Other elective subjects Subject name: From the list made avaiable by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))***	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV171	Advanced Biostatistics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	**SR:** AOK-OAKV161: Basic Biostatistics
AOK-OAKV351	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV352: Advanced Surgical Skills
AOK-OAKV352	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	-	1	-	Signature	-	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV351: Advanced Surgical Skills
AOK-OAKV331	Child and Adolescent Psychiatry, Mentalhygiene	Dept. of Child and Adolescent Psychiatry	Dr. Krisztina Kapornai	2	-	-	Evaluation(5)	2	-
AOK-OAKV381	Clinical Immunology	Dept. of Dermatology	Prof. Lajos Kemény	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK271: Internal Medicine II.
AOK-OAKV401	Laboratory Diagnostics: Use of Laboratory Tests in Practice	Dept. of Laboratory Medicine	Dr. Földesi Imre	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK213: Microbiology II.
AOK-OAKV431	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	Total: 8	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II., AOK-OAK141: Basic Surgical Skills, **P:** AOK-OAKV432: Microsurgery
AOK-OAKV432	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	-	Total: 20	-	Signature	-	**P:** AOK-OAKV431: Microsurgery
AOK-OAKV441	Molecular Developmental-Biology	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	**SR**: AOK-OAK153: Cell Biology and Molecular Genetics II.
AOK-OAKV271	Pharmacology Cases I.	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	2	-	Evaluation(5)	2	-
AOK-OAKV591	Social and Health Policy	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK371: Public Health and Preventive Medicine I.
AOK-OAKV061	The Clinical Basics of Aviation and Space Medicine	Dept. of Aviation and Space Medicine	Prof. Sándor Szabó	2	-	-	Evaluation(5)	2	-
AOK-OAKV622	The Language of Effective Doctor-Patient Communication II.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-OAKV651	Tropical Diseases	Dept. of Clinical Microbiology	Dr. habil Katalin Burián	2	-	-	Evaluation(5)	2	-
AOK-OAKV581	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	1	-	-	Evaluation(5)	2	**P:** AOK-OAKV582: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV582	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	1	-	Signature	-	**P:** AOK-OAKV581: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV561	Sports Medicine	Dept. of Sports Medicine	Dr. László Török	2	-	-	Evaluation(5)	2	-
AOK-OAKV181	Foundations of Evidence Based Medicine	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK121: Medical Sociology, AOK-OAK101 & AOK-OAK102 & AOK-OAK103: Medical Physics I.
AOK-OAKV051	Biochemical Basics of Preventive Medicine	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	-
AOK-OAKV671	Clinical neuropathology of neurodegenerative diseases	Dept. of Pathology	Prof. László Tiszlavicz	-	-	2	Term Mark(5)	2	**SR**: AOK-OAK223: Pathology II. lecture

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZVD	Demonstrator Activity	The Dept. where the student's demonstrator activity application was accepted		-	2	-	Evaluation(5)	2	**SR:** AOK-OAK024: Anatomy, Histology and Embryology II., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113: Medical Chemistry II., AOK-OAK153: Cell Biology and Molecular Genetics II., AOK-OAK031: Nursing Practice
AOK-OASZVT	Student Science Study Group	The Dept. where the student's Student Science Study Group application was accepted		-	-	1	Evaluation(5)	2	-
AOK-OASZV661	Clinical Aspects of Tropical Diseases	Dept. of Psychiatry	Prof. János Kálmán	2	-	-	Evaluation(5)	2	**SR:** AOK-OASZV671: Tropical Medicine
AOK-OASZV411	Chemical Misconceptions	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	-
AOK-OASZV221	Introduction to Toxicology	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK053: Biochemistry II., AOK-OAK093: Medical Physiology II.
AOK-OASZV121	Physics in Radiotherapy	Dept. of Oncology	Prof. Judit Oláh	-	1	-	Evaluation(5)	1	
AOK-OASZV071	Travel Medicine	Dept. of Aviation and Space Medicine	Prof. Sándor Szabó	Total 30	-	-	Evaluation(5)	2	**SR**: Basic Module
AOK-OASZV181	English and Hungarian Terminology of Doctor-Patient Communication	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-OASZV681	The role of sonography in the critical care	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	-	-	Total 6	Evaluation(5)	1	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK273: Internal Medicine II.
AOK-OASZV741	Medically Unexplained Physical Symptoms MUPS in Medical Praxis	Dept. of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 24	-	Term Mark(5)	1	**ER**: AOK-OAK361: Examination in Behavioural Sciences
AOK-OASZV751	Basics of Self-Knowledge in Professional Orientation	Dept. of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 12	-	Term Mark(5)	1	-
AOK-OASZV771	3D printing in life sciences	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	-

9th (fall) semester (9001AK_N_2020) **CLINICAL MODULE**

Compulsory Subjects *(*For groups 1, 2, 3 ** for groups 4,5,6 *** The credits for the completion of AOK-OAKVSZ1 Thesis Plan I. count towards the "compulsory elective" subject category. ****2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK243	Anesthesiology and Intensive Therapy I. lecture	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	2	-	-	Evaluation(5)	1	**ER:** AOK-OAK291: Pharmacology and pharmacotherapy II., **P:** AOK-OAK244: Anesthesiology and Intensive Therapy I.
AOK-OAK244	Anesthesiology and Intensive Therapy I. practice	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	-	1	-	Signature	-	**P:** AOK-OAK243: Anesthesiology and Intensive Therapy I.
AOK-OAK275	Infectology - Infectious Diseases	Dept. of Internal Medicine	Prof. Csaba Lengyel	2	-	-	Examination	3	**ER:** AOK-OAK291: Pharmacology and pharmacotherapy II., **P:** AOK-OAK276: Internal Medicine IV. Practice
AOK-OAK276	Internal Medicine IV. Practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	2	-	Signature	-	**P:** AOK-OAK275: Infectology - Infectious Diseases
AOK-OAK352	Modern Complex Therapy of Malignant Diseases in Clinical Practice	Dept. of Oncology	Prof. Judit Oláh	-	-	1	Term Mark(5)	2	**SR:** AOK-OAK351: Clinical Oncology
AOK-OAK311	Pediatrics I. Practice	Dept. of Pediatrics	Dr. Csaba Bereczki	-	2	-	Signature	-	**P:** AOK-OAK313: Pediatrics I. Lecture, AOK-OAK312: Pediatrics I. Seminar
AOK-OAK312	Pediatrics I. Seminar	Dept. of Pediatrics	Dr. Csaba Bereczki	-	-	2	Term Mark(5)	5	**ER:** AOK-OAK291: Pharmacology and pharmacotherapy II., AOK-OAK273: Internal Medicine III. **P:** AOK-OAK311: Pediatrics I. Practice, AOK-OAK313: Pediatrics I. Lecture
AOK-OAK313	Pediatrics I. Lecture	Dept. of Pediatrics	Dr. Csaba Bereczki	1	-	-	Signature	-	**P:** AOK-OAK311: Pediatrics I. Practice, AOK-OAK312: Pediatrics I. Seminar
AOK-OAK331	Forensic Medicine I. lecture	Dept. of Forensic Medicine	Dr. Éva Kereszty	1	-	-	Examination	3	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK332: Forensic Medicine I.
AOK-OAK332	Forensic Medicine I. practice	Dept. of Forensic Medicine	Dr. Éva Kereszty	-	2	-	Signature	-	**P:** AOK-OAK331: Forensic Medicine I.
AOK-OAK381	Neurology I. lecture	Dept. of Neurology	Prof. Péter Klivényi	1	-	-	Examination	3	**ER:** AOK-OAK273: Internal Medicine III., AOK-OAK291: Pharmacology and pharmacotherapy II., **P:** AOK-OAK382:
AOK-OAK382	Neurology I. practice	Dept. of Neurology	Prof. Péter Klivényi	-	2	-	Signature	-	**P:** AOK-OAK381: Neurology I.
AOK-OAK441	Psychiatry I. lecture	Dept. of Psychiatry	Prof. János Kálmán	1	-	-	Signature	-	**P:** AOK-OAK442: Psychiatry I.
AOK-OAK442	Psychiatry I. practice	Dept. of Psychiatry	Prof. János Kálmán	-	1	-	Term Mark(5)	2	**ER**: AOK-OAK273: Internal Medicine III., **P:** AOK-OAK441: Psychiatry I.
AOK-OAK475	Surgery III. lecture	Dept. of Surgery	Prof. György Lázár	1	-	-	Evaluation(5)	2	**ER:** AOK-OAK473: Surgery II., **P:** AOK-OAK476: Surgery III.
AOK-OAK476	Surgery III. practice	Dept. of Surgery	Prof. György Lázár	-	1	-	Signature	-	**P:** AOK-OAK475: Surgery III.
AOK-OAK251	Oral and Maxillofacial Surgery, Stomatology lecture	Department of Oral and Maxillofacial Surgery	Prof. József Piffkó	1	-	-	Examination	2	**ER:** AOK-OAK273: Internal Medicine III., **P**: AOK-OAK252: Stomatology and Oral Surgery
AOK-OAK252	Oral and Maxillofacial Surgery, Stomatology seminar	Department of Oral and Maxillofacial Surgery	Prof. József Piffkó	-	-	1	Signature	-	**P:** AOK-OAK251: Stomatology and Oral Surgery
AOK-OAK281	Dermatology lecture*	Dept. of Dermatology	Prof. Lajos Kemény	2	-	-	Examination	4	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK282: Dermatology
AOK-OAK282	Dermatology practice*	Dept. of Dermatology	Prof. Lajos Kemény	-	3	-	Signature	-	**P:** AOK-OAK281: Dermatology
AOK-OAK491	Ophthalmology lecture*	Dept. of Ophthalmology	Dr. Edit Tóth-Molnár	2	-	-	Examination	3	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK492: Ophthalmology
AOK-OAK492	Ophthalmology practice*	Dept. of Ophthalmology	Dr. Edit Tóth-Molnár	-	2	-	Signature	-	**P:** AOK-OAK491: Ophthalmology
AOK-OAK301	Oto-Rhino-Laryngology lecture**	Dept. of Oto-Rhino-Laryngology	Prof. László Rovó	2	-	-	Examination	4	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK302: Oto-Rhino-Laryngology
AOK-OAK302	Oto-Rhino-Laryngology practice**	Dept. of Oto-Rhino-Laryngology	Prof. László Rovó	-	3	-	Signature	-	**P:** AOK-OAK301: Oto-Rhino-Laryngology
AOK-OAK521	Urology lecture**	Dept. of Urology	Dr. Zoltán Bajory	1	-	-	Examination	2	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK522: Urology
AOK-OAK522	Urology practice**	Dept. of Urology	Dr. Zoltán Bajory	-	2	-	Signature	-	**P:** AOK-OAK521: Urology
AOK-OAKVSZ1	Thesis plan I.***	Albert Szent-Györgyi Medical School		-	-	2	Term Mark(5)	5	-
Neptun search: Other elective subjects Subject name: From the list made available by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))****	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV161	Basic Biostatistics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	-
AOK-OAKV291	How to use microbiology laboratory results to diagnose and treat infectious diseases;	Dept. of Clinical Microbiology	Dr. habil Katalin Burián	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK271: Internal Medicine II.
AOK-OAKV131	Introduction to Aviation and Space Medicine	Dept. of Aviation and Space Medicine	Prof. Sándor Szabó	2	-	-	Evaluation(5)	2	-
AOK-OAKV641	Medical Informatics I.	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	-
AOK-OAKV491	Medical Molecular Biology and Genomics	Dept. of Med. Biology	Prof. Zsolt Boldogkői	1	-	-	Evaluation(5)	1	-
AOK-OAKV431	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	Total: 8	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II., AOK-OAK141: Basic Surgical Skills, **P:** AOK-OAKV432: Microsurgery
AOK-OAKV432	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	-	Total: 20	-	Signature	-	**P:** AOK-OAKV431: Microsurgery
AOK-OAKV471	Nuclear Medicine	Dept. of Nuclear Med.	Prof. László Pávics	1	-	-	Evaluation(5)	1	-
AOK-OAKV272	Pharmacology Cases II.	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	2	-	Evaluation(5)	2	**SR:** AOK-OAKV271: Pharmacology Cases I.
AOK-OAKV621	The Language of Effective Doctor-Patient Communication I.	Dept. for Medical Communication and	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-OAKV551	Rheumatology	Dept. of Rheumatology and Immunology	Prof. László Kovács	2	-	-	Evaluation(5)	2	**SR**: AOK-OAK421: Medical Psychology I.
AOK-OAKV251	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions lecture	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	2	-	-	Evaluation(5)	2	**P:** AOK-OAKV252: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV252	Electrophysiology: ion channels and ion transport mechanisms in the regulation of cell functions practice	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	Total: 6	-	Signature	-	**P:** AOK-OAKV251: Electrophysiology: ion channels and ion transport mechanisms in the regulatin of cell functions
AOK-OAKV661	Neuropathological basis of clinical neurosciences	Dept. of Pathology	Prof. László Tiszlavicz	-	-	2	Term Mark(5)	2	**SR**: AOK-OAK223: Pathology II.

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	Precondition (SR: subject requirement = completion of the precondition subject(s) in a preceding semester is required; ER: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; P: parallel completion = register for all subjects in the same semester)
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZV011	Self management support for patients with chronic conditions	Dept. of Medical Rehabiliation and Physical Medicine	Dr. István Kósa	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK181 & AOK-OAK182: Basic Principles of Internal Medicine
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZVD	Demonstrator Activity	The Dept. where the student's demonstrator activity application was accepted		-	2	-	Evaluation(5)	2	**SR:** AOK-OAK024: Anatomy, Histology and Embryology II., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113: Medical Chemistry II., AOK-OAK153: Cell Biology and Molecular Genetics II., AOK-OAK031: Nursing Practice
AOK-OASZVT	Student Science Study Group	The Dept. where the student's Student Science Study Group application was accepted		-	-	1	Evaluation(5)	2	-
AOK-OASZV041	Biophysics of Hearing. Objective and Subjective Audiometry	Dept. of Oto-Rhino-Laryngology	Prof. László Rovó	1	-	-	Evaluation(5)	1	**SR:** AOK-OAK273: Internal Medicine III.
AOK-OASZV141	Diseases of the Temporomandibular System	Dept. of Prosthodontics and Oral Biology	Dr. Márta Radnai	1	-	-	Evaluation(5)	2	**SR:** Pre-Clinical Module **P:** AOK-OASZV142: Diseases of the Temporomandibular System
AOK-OASZV142	Diseases of the Temporomandibular System	Dept. of Prosthodontics and Oral Biology	Dr. Márta Radnai	-	1	-	Signature	-	**P:** AOK-OASZV141: Diseases of the Temporomandibular System
AOK-OASZV131	Sexual Disorders - Gynecological Aspects	Dept. of Obstetrics and G.	Dr. Gábor Németh	1	-	-	Evaluation(5)	1	**SR:** AOK-OAK231: Surgical Propedeutics
AOK-OASZV671	Tropical Medicine	Dept. of Psychiatry	Prof. János Kálmán	2	-	-	Evaluation(5)	2	-
AOK-OASZV541	Modern Approach of the Gynecological Laparoscopy	Dept. of Obstetrics and G.	Dr. Gábor Németh	1	-	-	Evaluation(5)	1	**SR:** AOK-OAK231: Surgical Propedeutics
AOK-OASZV701	Medical History Taking in Hungarian I.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	**SR:** AOK-OAK608: Hungarian Language VIII.
AOK-OASZV641	Thesis writing in English-academic language and style	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	**SR**: AOK-OAK373 Public Health and Preventive Medicine II. lecture
AOK-OASZV751	Basics of Self-Knowledge in Professional Orientation	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 12	-	Term Mark(5)	1	-
AOK-OASZV781	Sexual medicine	Dept. of Obstetrics and G.	Dr. Gábor Németh	-	-	2	Evaluation(5)	2	**SR:** AOK-OAK503: Obstetrics and Gynaecology II.
AOK-OASZV801	Cerebrovascular diseases of the central nervous system (stroke, aneurysm, angioma) and their neurosurgical treatment options (surgery, intervention, conservative therapy)	Dept. of Neurosurgery	Prof. Pál Barzó	Total 14	-	-	Evaluation(5)	1	**SR**: Pre-Clinical Module

10th (spring) semester (9001AK_N_2020) **CLINICAL MODULE**

Compulsory Subjects *(* For groups 4, 5, 6 ** For groups 1, 2, 3 *** The credits for the completion of AOK-OAKVSZ2 Thesis Plan II. count towards the "compulsory elective" subject category. ****2 semesters of Physical Education have to be completed until the end of the Clinical Module.)*									
AOK-OAK245	Anesthesiology and Intensive Therapy II. lecture	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	2	-	-	Examination	2	**ER:** AOK-OAK243: Anesthesiology and Intensive Therapy I., **P:** AOK-OAK245: Anesthesiology and Intensive Therapy II.
AOK-OAK246	Anesthesiology and Intensive Therapy II. practice	Dept. of Anesthesiology and Intensive Therapy	Prof. Babik Barna	-	1	-	Signature	-	**P:** AOK-OAK245: Anesthesiology and Intensive Therapy II.
AOK-OAK261	Healthcare Management	Dept. of Health Economics	Dr. Norbert Buzás	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK373: Public Health and Preventive Medicine II.
AOK-OAK277	Internal Medicine V. lecture	Dept. of Internal Medicine	Prof. Csaba Lengyel	2	-	-	Examination	3	**ER:** AOK-OAK291: Pharmacology and pharmacotherapy II., **P:** AOK-OAK278: Internal Medicine V.
AOK-OAK278	Internal Medicine V. practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	Total 16	-	Signature	-	**P:** AOK-OAK277: Internal Medicine V.
AOK-OAK314	Pediatrics II. Practice	Dept. of Pediatrics	Dr. Csaba Bereczki	-	2	-	Signature	-	**P:** AOK-OAK315: Pediatrics II. Seminar
AOK-OAK315	Pediatrics II. Seminar	Dept. of Pediatrics	Dr. Csaba Bereczki	-	-	2	Term Mark(5)	4	**SR:** AOK-OAK313: Pediatrics I. Lecture, AOK-OAK312: Pediatrics I. Seminar, **P:** AOK-OAK314: Pediatrics II. Practice
AOK-OAK321	Neurosurgery lecture	Dept. of Neurosurgery	Prof. Pál Barzó	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK475: Surgery III. **P:** AOK-OAK322: Neurosurgery
AOK-OAK322	Neurosurgery practice	Dept. of Neurosurgery	Prof. Pál Barzó	-	1	-	Signature	-	**P:** AOK-OAK321: Neurosurgery
AOK-OAK333	Forensic Medicine II. lecture	Dept. of Forensic Medicine	Dr. Éva Kereszty	1	-	-	Examination	3	**ER:** AOK-OAK331: Forensic Medicine I., **P:** AOK-OAK333: Forensic Medicine II
AOK-OAK334	Forensic Medicine II. practice	Dept. of Forensic Medicine	Dr. Éva Kereszty	-	2	-	Signature	-	**P:** AOK-OAK333: Forensic Medicine II.
AOK-OAK383	Neurology II. lecture	Dept. of Neurology	Prof. Péter Klivényi	1	-	-	Signature	-	**P:** AOK-OAK384: Neurology II.
AOK-OAK384	Neurology II. practice	Dept. of Neurology	Prof. Péter Klivényi	-	1	-	Term Mark(5)	2	**ER:** AOK-OAK381: Neurology I., **P:** AOK-OAK384: Neurology II.
AOK-OAK443	Psychiatry II. lecture	Dept. of Psychiatry	Prof. János Kálmán	2	-	-	Examination	3	**ER:** AOK-OAK442: Psychiatry I., AOK-OAK291: Pharmacology and pharmacotherapy II., **P:** AOK-OAK444: Psychiatry II.
AOK-OAK444	Psychiatry II. practice	Dept. of Psychiatry	Prof. János Kálmán	-	1	-	Signature	-	**P:** AOK-OAK443: Psychiatry II.
AOK-OAK511	Traumatology lecture	Dept. of Traumatology	Prof. Endre Varga	2	-	-	Examination	3	**ER:** AOK-OAK475: Surgery III., **P:** AOK-OAK512: Traumatology
AOK-OAK512	Traumatology practice	Dept. of Traumatology	Prof. Endre Varga	-	2	-	Signature	-	**P:** AOK-OAK511: Traumatology
AOK-OAK281	Dermatology lecture*	Dept. of Dermatology	Prof. Lajos Kemény	2	-	-	Examination	4	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK282: Dermatology
AOK-OAK282	Dermatology practice*	Dept. of Dermatology	Prof. Lajos Kemény	-	3	-	Signature	-	**P:** AOK-OAK281: Dermatology
AOK-OAK491	Ophthalmology lecture*	Dept. of Ophthalmology	Dr. Edit Tóth-Molnár	2	-	-	Examination	3	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK492: Ophthalmology
AOK-OAK492	Ophthalmology practice*	Dept. of Ophthalmology	Dr. Edit Tóth-Molnár	-	2	-	Signature	-	**P:** AOK-OAK491: Ophthalmology
AOK-OAK301	Oto-Rhino-Laryngology lecture**	Dept. of Oto-Rhino-Laryngology	Prof. László Rovó	2	-	-	Examination	4	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK302: Oto-Rhino-Laryngology
AOK-OAK302	Oto-Rhino-Laryngology practice**	Dept. of Oto-Rhino-Laryngology	Prof. László Rovó	-	3	-	Signature	-	**P:** AOK-OAK301: Oto-Rhino-Laryngology
AOK-OAK521	Urology lecture**	Dept. of Urology	Dr. Zoltán Bajory	1	-	-	Examination	2	**ER:** AOK-OAK273: Internal Medicine III., **P:** AOK-OAK522: Urology
AOK-OAK522	Urology practice**	Dept. of Urology	Dr. Zoltán Bajory	-	2	-	Signature	-	**P:** AOK-OAK521: Urology
AOK-OAKVSZ2	Thesis Plan II.***	Albert Szent-Györgyi Medical School		-	-	2	Term Mark(5)	5	**SR:** AOK-OAKVSZ1: Thesis plan I.
Neptun search: Other elective subjects Subject name: From the list made avaiable by the sport center	Physical Education (Actual courses are on neptun (e.g., yoga, badminton etc.))****	Sport Center	Dr. Margaréta Tokodi	-	2	-	Signature	-	-

SUGGESTED STUDY PLAN - MEDICINE - 2022/2023 (for students started in/after 2020/2021)

Course Code	Course	Dept.	Head of Dept.	Theory Hrs/week	Practice Hrs/week	Seminar Hrs/ week	Form of exam	Credit	**Precondition** (**SR**: subject requirement = completion of the precondition subject(s) in a preceding semester is required; **ER**: examination requirement = passing the examination of the precondition subject(s) in the same semester is required; **P**: parallel completion = register for all subjects in the same semester)
Compulsory Elective Subjects *(Complete 45 credits worth of compulsory elective subjects by the end of the Clinical Module.)*									
AOK-OAKV171	Advanced Biostatistics	Dept. of Med. Physics and Informatics	Prof. Ferenc Peták	2	-	-	Evaluation(5)	2	**SR:** AOK-OAKV161: Basic Biostatistics
AOK-OAKV351	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	1	-	-	Evaluation(5)	2	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV352: Advanced Surgical Skills
AOK-OAKV352	Advanced Surgical Skills	Inst. of Surgical Research	Prof. Mihály Boros	-	1	-	Signature	-	**SR:** AOK-OAK141 & AOK-OAK142: Basic Surgical Skills **P:** AOK-OAKV351: Advanced Surgical Skills
AOK-OAKV581	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	1	-	-	Evaluation(5)	2	**P:** AOK-OAKV582: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV582	Cardiac Electrophysiology as a Basic Property of Cardiac Function	Dept. of Pharmacology and Pharmacotherapy	Prof. István Baczkó	-	1	-	Signature	-	**P:** AOK-OAKV581: Cardiac Electrophysiology as a Basic Property of Cardiac Function
AOK-OAKV291	How to use microbiology laboratory results to diagnose and treat infectious diseases; interactive; problem-based case discussions	Dept. of Clinical Microbiology	Dr. habil Katalin Burián	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK271: Internal Medicine II.
AOK-OAKV331	Child and Adolescent Psychiatry, Mentalhygiene	Dept. of Child and Adolescent Psychiatry	Dr. Krisztina Kapornai	2	-	-	Evaluation(5)	2	-
AOK-OAKV381	Clinical Immunology	Dept. of Dermatology	Prof. Lajos Kemény	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK271: Internal Medicine II.
AOK-OAKV401	Laboratory Diagnostics: Use of Laboratory Tests in Practice	Dept. of Laboratory Medicine	Dr. Földesi Imre	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK213: Microbiology II.
AOK-OAKV431	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	Total: 8	-	-	Evaluation(5)	2	**SR:** AOK-OAK027: Anatomy, Histology and Embryology III., AOK-OAK093: Medical Physiology II., AOK-OAK141: Basic Surgical Skills, **P:** AOK-OAKV432: Microsurgery
AOK-OAKV432	Microsurgery	Inst. of Surgical Research	Prof. Mihály Boros	-	Total: 20	-	Signature	-	**P:** AOK-OAKV431: Microsurgery
AOK-OAKV441	Molecular Developmental-Biology	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK153: Cell Biology and Molecular Genetics II.
AOK-OAKV591	Social and Health Policy	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK371: Public Health and Preventive Medicine I.
AOK-OAKV061	The Clinical Basics of Aviation and Space Medicine	Dept. of Aviation and Space Medicine	Prof. Sándor Szabó	2	-	-	Evaluation(5)	2	-
AOK-OAKV622	The Language of Effective Doctor-Patient Communication II.	Dept. for Medical Communication and	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-OAKV651	Tropical Diseases	Dept. of Clinical Microbiology	Dr. habil Katalin Burián	2	-	-	Evaluation(5)	2	-
AOK-OAKV561	Sports Medicine	Dept. of Sports Medicine	Dr. László Török	2	-	-	Evaluation(5)	2	-
AOK-OAKV501	Medical Rehabilitation and Physical Medicine	Dept. of Medical Rehabiliation and Physical Medicine	Dr. István Kósa	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK181: Basic Principles of Internal Medicine (Basics of Haematology)
AOK-OAKV181	Foundations of Evidence Based Medicine	Dept. of Public Health	Dr. Edit Paulik	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK121: Medical Sociology, AOK-OAK101 & AOK-OAK102 & AOK-OAK103: Medical Physics I.
AOK-OAKV051	Biochemical Basics of Preventive Medicine	Dept. of Biochemistry	Dr. Tamás Csont	2	-	-	Evaluation(5)	2	-
AOK-OAKV671	Clinical neuropathology of neurodegenerative diseases	Dept. of Pathology	Prof. László Tiszlavicz	-	-	2	Term Mark(5)	2	**SR**: AOK-OAK223: Pathology II.
Elective Subjects *(Complete 18 credits worth of elective subjects by the end of the Clinical Module.)*									
AOK-OASZVV	Clinical Voluntary Work	Departments of the Albert Szent-Györgyi Medical School		-	2	-	Term Mark(5)	2	-
AOK-OASZVD	Demonstrator Activity	The Dept. where the student's demonstrator activity application was accepted		-	2	-	Evaluation(5)	2	**SR:** AOK-OAK024: Anatomy, Histology and Embryology II., AOK-OAK104 & AOK-OAK105 & AOK-OAK106: Medical Physics II., AOK-OAK107 & AOK-OAK108: Medical Statistics, AOK-OAK113: Medical Chemistry II., AOK-OAK153: Cell Biology and Molecular Genetics II., AOK-OAK031: Nursing Practice
AOK-OASZVT	Student Science Study Group	The Dept. where the student's Student Science Study Group application was accepted		-	-	1	Evaluation(5)	2	-
AOK-OASZV661	Clinical Aspects of Tropical Diseases	Dept. of Psychiatry	Prof. János Kálmán	2	-	-	Evaluation(5)	2	**SR**: AOK-OASZV671: Tropical Medicine
AOK-OASZV702	Medical History Taking in Hungarian II.	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	**SR:** AOK-OAK608: Hungarian Language VIII.
AOK-OASZV411	Chemical Misconceptions	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	-
AOK-OASZV501	Multidisciplinary Care of Breast Cancer	Dept. of Oncology	Prof. Judit Oláh	2		-	Evaluation(5)	2	**SR:** AOK-OAK351: Clinical Oncology
AOK-OASZV071	Travel Medicine	Dept. of Aviation and Space Medicine	Prof. Sándor Szabó	Total 30	-	-	Evaluation(5)	2	**SR**: Basic Module
AOK-OASZV221	Introduction to Toxicology	Dept. of Med. Chemistry	Prof. Tamás Martinek	2	-	-	Evaluation(5)	2	**SR:** AOK-OAK053: Biochemistry II., AOK-OAK093: Medical Physiology II.
AOK-OASZV181	English and Hungarian Terminology of Doctor-Patient Communication	Dept. for Medical Communication and Translation	Dr. Csilla Keresztes	-	2	-	Term Mark(5)	2	-
AOK-OASZV741	Medically Unexplained Physical Symptoms MUPS in Medical Praxis	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 24	-	Term Mark(5)	1	**ER**: AOK-OAK361: Examination in Behavioural Sciences
AOK-OASZV751	Basics of Self-Knowledge in Professional Orientation	Dept.of Behavioural Sciences	Dr. Oguz Kelemen	-	Total 12	-	Term Mark(5)	1	-
AOK-OASZV791	Clinical neonatology	Dept. of Pediatrics	Dr. Csaba Bereczki	-	-	Total 14	Evaluation(5)	1	**SR**: AOK-OAK312: Pediatrics I. Seminar

*******Without the completion of the every compulsory subject in the clinical module, you cannot take any compulsory subject from the final module below.*******

Clinical Module completion requirements: completion of all basic, pre-clinical, clinical module compulsory subjects--including two semesters of physical education--, 45 credits worth of compulsory elective subjects and 18 credits worth of elective subjects over the basic, pre-clinical and clinical module

(9001AK_N_2020) **FINAL MODULE**

Compulsory Subjects									
AOK-OAKSZE	Preparation of the Thesis	Albert Szent-Györgyi Medical School	-	-	-	2	Term Mark(5)	10	**SR:** AOK-OAKVSZ2: Thesis Plan II.
AOK-OAK531	Internal Medicine	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	240	-	Comprehensive Exam	10	-
AOK-OAK532	Oncological Module in Internal Medicine Practice	Dept. of Oncotherapy	Prof. Judit Oláh	-	30	-	Signature	-	-
AOK-OAK533	General Practice	Dept. of Internal Medicine	Prof. Csaba Lengyel	-	30	-	Signature	-	-
AOK-OAK541	Pediatrics	Dept. of Pediatrics	Dr. Csaba Berecki	-	210	-	Comprehensive Exam	8	-
AOK-OAK542	District Pediatric Consultation	Dept. of Pediatrics	Dr. Csaba Berecki	-	30	-	Signature	-	-
AOK-OAK551	Neurology	Dept. of Neurology	Prof. Péter Klivényi	-	120	-	Comprehensive Exam	4	-
AOK-OAK561	Psychiatry	Dept. of Psychiatry	Prof. János Kálmán	-	120	-	Comprehensive Exam	4	-
AOK-OAK571	Surgery	Dept. of Surgery	Prof. György Lázár	-	180	-	Comprehensive Exam	9	-
AOK-OAK572	Oncological Module in Surgery Practice	Dept. of Oncotherapy	Prof. Judit Oláh	-	30	-	Signature	-	-
AOK-OAK573	Traumatology	Dept. of Traumatology	Prof. Endre Varga	-	30	-	Signature	-	-
AOK-OAK574	Emergency Medicine	Dept. of Emergency Medicine	Dr. Zoltán Pető	-	30	-	Signature	-	-
AOK-OAK581	Obstetrics and Gynaecology	Dept. of Obstetrics and Gynaecology	Dr. Gábor Németh	-	120	-	Comprehensive Exam	5	-
AOK-OAK582	Oncological Module in Obstetrics and Gynaecology Practice	Dept. of Oncotherapy	Prof. Judit Oláh	-	30	-	Signature	-	-

6 th year (11th and 12th semester)
Academic year 2022/2023

The internships should be accomplished principally at the clinics and hospitals of the University; however, they can be also accomplished abroad, provided the students submit the acceptance letter of the clinic/hospital and have the permission of the department concerned before starting the practice. The accomplishment of the practices must be verified officially to the Secretariat as the precondition for starting the next practice.

Two practices can be accomplished continuously and the final examinations can be taken in the week following the accomplishment of the practices. In the sixth year interns can be assigned to duty service as physicians.

If the student fails an examination, it must be repeated together with the half of the practice period.

If the student fails to submit the thesis by the deadline given - or fails to submit it by the deadline of postponement, his/her internships and examinations must be suspended.

The State Board Examination consists of: Thesis defence, Test (Multiple Choice Questions), Oral examination (theory) and Practical examination (bedside examination).

Further details are available in the relevant Internship Guide.

COMPULSORY PRACTICES IN SUMMER

Summer practice:
1st, 3rd and 4th year students are required to complete a four-week compulsory summer practice in a hospital or clinic which must be accredited by the country concerned. At the completion of the practice an "Evaluation form" should be filled in, signed, stamped and sent directly from the hospital/clinic or submitted by the student in a sealed envelope. (The form can be downloaded from our website). A "Letter of Acceptance" issued by the hospital/clinic, furthermore a certificate that the hospital/clinic is accredited by the country concerned has to be presented at the Foreign Students' Secretariat **until May 2023. Please check the relevant Info Sheet for the exact date.**

Students should register for completing a practice at least one month before its beginning. Practice fee must be paid before starting the practice.

1st year medical students have to perform a four-week Nursing practice.

Departments at the University of Szeged:

1st Department of Internal Medicine
2nd Department of Internal Medicine
Obstetrics and Gynecology Department
Department of Surgery
Neurosurgery Department
Neurology Department
Psychiatry Department
Pediatrics Department
Ophthalmology Department
Oto-Rhino-Laryngology and Head-Neck Surgery Department
Urology Department
Pulmonology Department
Traumatology Department
Department of Oral and Maxillofacial Surgery

3rd year medical students have to perform a four-week Internal Medicine practice.

Departments at the University of Szeged:

1st Department of Internal Medicine
Division of Endocrinology
2nd Department of Internal Medicine

4th year medical students have to perform a four-week General Surgery practice.

Departments at the University of Szeged:

Department of Surgery

INTERIM PRACTICE

4th year medical students have to complete a two-day Obstetrics and Gynaecology Delivery-Room Practice in one semester.

EXTRACURRICULAR SCIENTIFIC ACTIVITY

Department of Anatomy, Histology and Embryology Department

1. Fostering the regenerative processes in the central nervous system

Prof. Antal Nógrádi

2. Regenerative capacity of neural stem cells

Dr. Krisztián Pajer

3. Molecular mechanisms leading to axon degeneration

Dr. Róbert Adalbert

4. Cellular and molecular changes in hippocampal sclerosis

Prof. András Mihály

Department Medical Biology

1. ***Host-Microbe Interactions in Obesity and Comorbidities***
   Prof. Dr. Zsolt Boldogkői (MSc, PhD, DSc) and Dr. habil. Dóra Tombácz (MSc, PhD)
2. ***Transcriptional analysis of herpesviruses***
   Prof. Dr. Zsolt Boldogkői (MSc, PhD, DSc) and Dr. habil. Dóra Tombácz (MSc, PhD)
3. ***Analysis of Transcriptional Interference Networks (TINs)***
   Prof. Dr. Zsolt Boldogkői (MSc, PhD, DSc) and Dr. habil. Dóra Tombácz (MSc, PhD)

Department of Nuclear Medicine

1. Up to date Nuclear Medicine investigations in neurology and psichiatry Dr. László Pávics Professor of Nuclear Medicine
2. Experimental validation of new radiopharmaneuticals Dr. László Pávics Professor of Nuclear Medicine
3. Radiation safety in Nuclear Medicine Dr. Teréz Séra physicist
4. New Nuclear Medicine investigations in oncology Dr. Besenyi Zsuzsanna

Department of Clinical Microbiology

1. *Clostridium difficile* infection (diagnosis and typing).
Dr. Edit Urbán

2. The use of MALDI-TOF in clinical microbiology.
Dr. Edit Urbán

3. The role of anaerobic bacteria in human infections.
Dr. Edit Urbán

4. Climatic changes and emerging viral infections.
Prof. Dr. Judit Deák

5. Genetic analysis of Bacteroides spp.
Dr. József Sóki

6. Antibiotic resistance mechanisms of anaerobic bacteria
Dr. József Sóki

7. ESBL-producing bacteria in clinical practice.
Dr. Andrea Lázár

8. NTB mycobacteria in human infections.
Dr. Gabriella Terhes

9. Laboratory diagnosis of arthropod-borne infections.

Dr. Gabriella Terhes

10. Epidemiology of viral respiratory tract infections.
Dr. Péter K. Sárvári

11. Fungal infections int he ICU.
Mrs Csányiné Dr. Ilona Dóczi

Department of Otolaryngology and Head & Neck Surgery

1. **Pathogenesis and treatment of laryngeal tumors**
2. **Pathophysiology and treatment of vocal cord functional disorders**

Department of Behavioural Sciences

1. **The role of culture in reactions to disease**
   Prof. Bettina Pikó MD. Dsc.

Department of Oto-Rhino Laryngology and Head & Neck Surgery

1. **Objective and subjective functional examination methods of the therapy of laryngeal diseases**
   Prof. Dr. habil. László Rovó Ph.D., head of department

2. **Evaluation of the efficiency of modern implantable hearing aids**
   Prof. Dr. habil. László Rovó Ph.D., head of department

3. **Methods of objective audiometry / Brainstem evoked response tests**
   Dr. habil. József Géza Kiss Ph.D, scientific advisor

4. **Methods of objective audiometry/ Examination of P300**
   Dr. habil. József Géza Kiss Ph.D, scientific advisor

5. **Methods of objective audiometry/ Otoacoustic emission**
   Dr. habil. József Géza Kiss Ph.D, scientific advisor

6. **Methods of objective audiometry/ Diseases of the inner ear, cochlear implantation**
   Dr. habil. József Géza Kiss Ph.D, scientific advisor

7. **Surgical therapy of pharyngeal-laryngeal tumors**
   Dr. László Iván Ph.D., associate professor

8. **Function-sparing surgery of the larynx**
   Dr. László Iván Ph.D., associate professor

9. **Complex oncological therapy of patients with head and neck malignancies**
   Dr. László Iván Ph.D., associate professor

10. **Endolaryngeal laser surgery**
    Dr. Miklós Csanády Ph.D., associate professor

11. **Partial resection of the larynx and the pharynx**
    Dr. Miklós Csanády Ph.D., associate professor

12. **Evaluation of the oncological therapy of patients with head and neck malignancies**
    Dr. Miklós Csanády Ph.D., associate professor

13. **Endoscopic surgery of the skullbase**
    Dr. Zsolt Bella Ph.D., senior lecturer

14. **Endoscopic surgery of the paranasal sinuses**
    Dr. Zsolt Bella Ph.D., senior lecturer

15. **Evaluation and therapy of sleep related breathing disorders**
    Dr. Zsolt Bella Ph.D., senior lecturer

16. **Modern evaluation of upper airway stenosis**
    Dr. Balázs Sztanó Ph.D., senior lecturer

17. **Cochlear implant fitting**
    Dr. habil. József Géza Kiss Ph.D, scientific advisor / Roland Nagy., research assistant

18. **Objective electrophysiological examinations in audiology**
    Dr. habil. József Géza Kiss Ph.D, scientific advisor / Balázs Dimák., research assistant

19. **Audiological examinations of bone anchored hearing aid systems**
    Dr. János Jarabin senior lecturer

20. **Differential diagnostics of vestibular disorders**
    Dr. János Jarabin senior lecturer

21. **Surgical methods of the tumors of the sinuses with covert approaches „ the facial degloving technique".**
    Dr. Gábor Vass senior lecture

22. **Disturbed wound healing following the surgeries of implantable hearing aid systems – surgical methods and the possibilities of prevention**
    Dr. Gábor Vass senior lecture

23. **New therapentie options in peripherae n. facialis palsy**
    Dr. Diána Szabó – senior lecture

24. **Implanted devices and imaging diagnostics in ENT – what examinations can be performed with what expectations and limitations?**
    Dr. Ádám Perényi – senior lecturer

25. **Speech discrimination, directional hearing, quality of life, social status and satispaction of patients with cochlear implants**
    Dr. Ádám Perényi – senior lecturer

26. **Speech discrimination, directional hearing, quality of life, social status and satispaction of patients with middle ear implants**
    Dr. Ádám Perényi – senior lecturer

27. **Surgical Techniques of Bone Conductive Hearing Implants — Introduction of Minimally Invasive Surgical Procedures.**
    Dr. Zsófia Bere senior lecture

28. **Audiological examination of Bone Conduction Hearing Aided patients**
    Dr. Zsófia Bere senior lecture

29. **Health and Quality of Life Outcomes of Bone Conduction Hearing Aided patients**
    Dr. Zsófia Bere senior lecture

30. **Pupillometry in audiology**
    Dr. Roland Nagy research fellow

31. **Electrophysiology measurents of Cochlear Implant (CI)**
    Dr. Roland Nagy research fellow

32. **Objective electrophysiological measurements on implantable hearing aids**
    Dr. Balázs Dimák

33. **Software development of hungarian speechtest**
    Dr. Balázs Dimák

34. **Construction and validation of hungraian speechtest**
    Dr. Balázs Dimák

35. Quality of life among hearing aid users
Rebeka Anna Schulcz psychologist

36. Quality of life among cochlear implant users
Rebeka Anna Schulcz psychologist

Department of Forensic Medicine

1. Illegal drug use
Éva Sija PhD., Katalin Kovács MD.

2. Laboratory investigation of drug abuse
László Institóris Phar.D, PhD.

3. Drunk driving
Éva Kereszty MD.

4. Heart-brain crosstalk in cranial injuries
Beáta Havasi MD.

5. Thanatochemistry *(postmortem detection of metabolic disorders; estimation time of death)*
Beáta Havasi MD., Éva Sija PhD

6. Forensic histopathology
Roland Weiczner MD. PhD

7. Evaluation of permanent disability
Beáta Havasi MD.

8. Fitness to drive
Beáta Havasi MD

9. Problems of the health legislation
Éva Kereszty MD.

10. Death detection in the clinical practice
Éva Kereszty MD.

11. Sudden cardiac death
Alíz Hernádi MD.

12. Identification
Árpád Szabó MD.

13. Unnatural death *(e.g. traffic accidents, suicide, family violence, drowning*)
Árpád Szabó MD., Katalin Kovács MD. Beáta Havasi MD.

14. Medical law (*e.g. informed consent, assisted suicide, malpractice*)
Éva Kereszty Dr., Máté Julesz Dr.

2nd Department of Internal Medicine

Prognostic factors in multiple myeloma
Szabolcs Modok, MD, PhD

Pharmacologic and interventional treatment of atrial fibrillation
Dr. Róbert Pap

Atrial flutter after open heart surgery
Dr. Attila Makai

Long-term efficacy of slow pathway ablation for atrioventricular nodal reentrant tachycardia
Dr. László Sághy

Heart failure and pacemaker therapy
Dr. Gábor Bencsik

1st Department of Internal Medicine

Dr. Péter Hegyi and Dr. Zoltán Rakonczay

1. The regulation of pancreatic ductal HCO3- secretion. 2
2. The role of pancreatic ducts in the process of acute pancreatitis.
3. Acid secretion from human gastric glands.
4. The regulation of human intestinal ion secretion.
5. Characterisation of lacrimal gland epithelial cells.
6. Viral transfection of epithelial cells.

Department of Pharmacology and Pharmacotherapy

1. **Dr. András Varró MD, DSc**
   The mechanisms of action of antiarrhythmic drugs. Cellular electrophysiology of the cardiac muscle.
2. **Dr. Ágnes Végh DSc**
   Mechanism of the antiarrhythmic effect of preconditioning. Role of endogenous substances.
3. **Dr. István Leprán DSc**
   Investigation of antiarrhythmic mechanisms in rat models
4. **Dr. István Baczkó MD PhD**
   Cellular patomechanisms of congestive heart failure
5. **Dr. István Koncz MD PhD**
   Mechanisms of cardiac arrhythmias.
   Antiarrhythmic drugs.
   Electrical diseases of the heart. Cardiac electrophysiology.
6. **Dr. Laszló Virág PhD and Dr. Norbert Iost PhD**
   Cellular electrophysiological techniques
7. **Dr. András Tóth PhD**
   Regulation of the Ca2+ homeostasis in isolated cardiac cells Cellular mechanism leading to ischemia/ reperfusion injury in cardiac tissue
8. **Dr. Ricza Tamásné Dr. Viktória Venglovecz PhD**
   Role of aquaporins in acute pancreatitis
9. **Dr. Balázs Ördög PhD**
   Molecular biology of cardiac ion channels
10. **Dr. Norbert Nagy PhD**
    Investigation of the cardiac Na+/Ca2+ exchanger mechanism in hypokalaemia induced arrhyhtmias.
    Investigation of the Na+/Ca2+ exchanger mechanism in the pacemaker function of the sinus node.
    The inotropic effect of selective Na+/Ca2+ exchanger inhibition in cardiac muscles
11. **Dr. Andrea Orosz MD PhD**
    Electrocardiographical investigation of cardiac ventricular repolarization parameters
12. **Dr. János Prorok PhD**
    Investigation of antiarrhythmic drugs in isolated heart model
    Investigation of the role of NCX in the genesis of cardiac arrhythmias

Department of Medical Physics and Informatics

Supervisor	Topic
Prof. Ferenc Peták	Respiratory consequences of mechanical ventilation in experimental models
Prof. Ferenc Peták	Respiratory consequences of cerebral hypoperfusion in experimental models
Prof. Ferenc Bari	Experimental modelling of cerebral hypoperfusion
Prof. Ferenc Bari	Nanomedicine as therapeutic option for stroke
Prof. Tibor Nyári	Investigation of the pattern of deaths in Hungary

Dr. József Tolnai	Monitoring of physiological processes with telemedicine tools
Dr. Gergely Fodor	Respiratory mechanical investigations in small animal models
Dr. Mónika Szűcs	Application of statistical methods in biological and medical research
Dr. Tibor Szabó	Redox proteins for biosensor application
Dr. László Égerházi and Dr. Tibor Szabó	3D printed microfluidic devices for biophotonic applications
Dr. János Lückl	The electrophysiological analysis of the ictal-interictal continuum in acute and subacute encephalopathies
Dr. János Lückl	Analysis of the spreading depolarizations with electrophysiological methods in animal and clinical research
Dr. Árpád Márki and Dr. Attila Nagy	Applications of 3D printing in medicine
Dr. Ferenc Rárosi	Application of classification methods and prediction models in biomedical research
Dr. Ferenc Rárosi	Statistical hypothesis testing in biomedical research

Department of Cell Biology and Molecular Medicine

1. **Neuroprotection in ischemic stroke: mechanisms and potential targets**
   Dr. Eszter Farkas
2. **Cellular mechanism of neuroinflammation**
   Prof. Dr. Károly Gyula
3. **The role of carbohydrate binding proteins in neuroinflammation**
   Dr. Ádám Légrádi
4. **The mechanisms of impaired post-ischemic reperfusion**
   Dr. Ákos Menyhárt
5. **Cerebral blood flow responses in the ischemic and aging brain**
   Dr. Szilvia V. Kecskés
6. **Brain edema models in live brain slice preparations**
   Dr. Rita Frank

Department of Medical Chemistry

1. **Blocking of protein-protein interactions, development of novel potential drug molecules**
   Prof. Tamás Martinek
2. **Cell delivery of therapeutic macromolecules**
   Prof. Tamás Martinek
3. **Development of novel antimicrobial strategies and potential therapeutics**
   Prof. Tamás Martinek, Dr. Edit Wéber
4. **Posttranslational modification of natural peptides by chemical methods**
   Prof. Gábor Tóth
5. **Synthesis of peptide toxins with multiple disulfide bridges**
   Prof. Gábor Tóth, Dr. Zsolt Bozsó
6. **Antibiotic adjuvants: mechanism of action and development**
   Dr. Anasztázia Hetényi
7. **Synthesis and examination of multiple disulfide bond-containing antifungal peptides and proteins**

Dr. Györgyi Váradi

8. Investigation of structure-activity relationships of antifungal proteins
Dr. Györgyi Váradi

9. Synthesis of nucleosides
Dr. Lajos Kovács

10. Synthesis and investigation of highly-ordered, guanine-containing structures
Dr. Lajos Kovács

11. Synthesis of modified nucleosides
Dr. Zoltán Kupihár

12. Investigation of peptides and proteins by mass spectrometry
Dr. Zoltán Kele

13. Identification of protein biomarkers using the methods of proteomics
Dr. Zoltán Szabó

14. Development of liquid chromatography and mass spectrometry methods for the quantitative determination of proteins
Dr. Zoltán Szabó

Institute of Surgical Research

1. Pathomechanism of small bowel ischemia-reperfusion. Monitoring of microcirculatory changes with intravital videomicroscopy and OPS technique
Prof. Mihály Boros, M.D., Ph.D., D.Sc.

2. Biological activity of phospholipids in inflammatory diseases
Prof. Mihály Boros, M.D., Ph.D., D.Sc.

3. Protective effects of biological gases in circulatory disorders
Prof. Mihály Boros, M.D., Ph.D., D.Sc.
Dr. József Kaszaki, Ph.D.

4. Neuroprotection in the enteral nervous system
Dr. József Kaszaki, Ph.D.

5. Examination of microcirculation under septic conditions
Dr. József Kaszaki, Ph.D.

6. Assessment of hemodynamic and biochemical consequences of experimental pericardial tamponade
Dr. József Kaszaki, Ph.D.

7. Examination of macro- and microhemodynamic consequences of volume therapy in circulatory shock
Dr. József Kaszaki, Ph.D.

8. Examination of mechanical parameters of the lung under normal and pathologic conditions
Dr. József Kaszaki, Ph.D.

9. Assessment of biochemical and microcirculatory consequences of disorders of the locomotor system using intravital videomicroscopy and OPS technique
Dr. Andrea Szabó, M.D., Ph.D.

10. Assessment and treatment of biochemical and microcirculatory consequences of urogenital diseases
Dr. Andrea Szabó, M.D., Ph.D.

7. Assessment and treatment of the oral surgical complications of chronic bisphosphonate exposure
Dr. Andrea Szabó, M.D., Ph.D.

Department of Pathophysiology

Student research program consultant: Prof. Dr. Zoltán Rakonczay, MD, PhD, DSc
telephone number: 62-545-200
E-mail: rakonczay.zoltan@med.u-szeged.hu

Thesis & scientific circle Topics (TDK)	
Tutor	**Topic**
Júlia Szakács M.D., Ph.D.	Study of the behavioral effects of neuropeptides
Miklós Jászberényi, M.D., Ph.D., D.Sc.	The Pathophysiology of Alzheimer's Disease
	The role of neuropeptide mediators in the control off affective, emotional and cognitive processes
	The Effect of Neuropeptides on the Hypothalamus-Pituitary-Adrenal system
Zsolt Bagosi, M.D., Ph.D.	The role of CRF and urocortins in anxiety, depression and social interaction
	The effects of urocortins and its fragments in anxiety and depression
	The hypothalamic and extra hypothalamic regulation of CRF
	The role of CRF and urocortins in alcohol, nicotine and cannabis addiction
Krisztina Anna Csabafi, M.D., Ph.D.	The effect of kisspeptin on amyloid-beta neurotoxicity
	Effect of Kisspeptins on carbohydrate metabolism
	Effect of neuropeptides on nociception and morphine induced analgesia, tolerance
Krisztina Anna Csabafi, M.D., Ph.D. Katalin Eszter Ibos, M.D.	Role of neuropeptides in anxiety and the development of anxious phenotype
Zoltán Rakonczay, M.D., Ph.D. D.Sc. Lóránd Kiss Ph.D.	The pathomechanism of experimental acute pancreatitis and therapeutic investigations

RECOMMENDED TEXTBOOKS FOR MEDICAL STUDENTS

FIRST YEAR

It is recommended to purchase the latest edition of the following textbooks!

ANATOMY, HISTOLOGY AND EMBRYOLOGY

- Richard L. Drake, A. Wayne Vogl, Adam W. M. Mitchell: Gray's Anatomy For Students (ELSEVIER, 14th Edition, 2020) ISBN: 978-0-323-39304-1
- Leslie P. Gartner, James L. Hiatt: Concise Histology (SAUNDERS ELSEVIER, 2011) ISBN: 978-0-702031114-4
- F. Hajdu, Gy. Somogyi: Histology - Practical Manual (Semmelweis Publisher, 5th Corrected Edition, 2014) ISBN 978-963-331-244-5
- T.W. Sadler: Langman's Medical Embryology (Williams § Wilkins, 13th Edition) ISBN-13: 978-1451191646
- M. Schuenke, E. Schulte, Udo Schumacher: Thieme Atlas of Anatomy: General Anatomy and Musculoskeletal System, Head and Neuroanatomy, Internal Organs (Thieme)

CELL BIOLOGY AND MOLECULAR GENETICS

Obligatory:

- William K. Purves, Gordon H. Orians: Life: The Science of Biology,W.H. Freeman and Company, New York
- J. Darnell H. Lodish D. Baltimore: Molecular Cell Biology, W.H. Freeman and Company, New York
- B. Alberts, D.B.J. Lewis, M. Raff. K. Roberts, J.D. Watson: Molecular Biology of the Cell, Garland Publishing, Inc. New York

Recommended:

- Bruce Alberts et al: Essential Cell Biology with Ebook, Smartwork5, and Animations, 9780393680393

BASIC LIFE SUPPORT

- Brent, Karren: First Aid for Colleges and Universities, Brady Morton Series

INTRODUCTION TO MEDICINE

- Bettina Pikó : Introduction to Medicine. Basic Principles of Behavioral Sciences and, Preventive Medicine. University of Szeged

INTRODUCTION TO PSYCHOLOGY, COMMUNICATION

- Nolen-Hoeksema S., Fredrickson B.L., Loftus G.R., Wagenaar W.A.: *Atkinson and Hilgard's Introduction to Psychology*. Cengage Learning EMEA, 2009.
- János Pilling (ed): *Medical Communication*. Medicina, 2011

LATIN BASED MEDICAL TERMINOLOGY

- Gergely Brandl – Imre Áron Illés – Márta Marancsik – Edit Vágvölgyi: *Latin Based Medical Terminology,* JPress Szeged, 2021

MEDICAL CHEMISTRY

Obligatory:

- Ebbing-Hart: General Chemistry /Organic Chemistry, Houghton Mifflin Company

Recommended:

- Harold Hart: Organic Chemistry (A Short Course), Houghton Mifflin Company, Boston
- P. Gergely: Organic and Bioorganic Chemistry for Medical Students, University Medical School of Debrecen,
- John McMurry: Fundamentals of Organic Chemistry, Brooks/Cole Publishing Company, ITP, An International Thomson Publishing Company

MEDICAL PHYSICS

- S Damjanovich, J Fidy and J Szöllősi (eds): Medical Biophysics. Medicina, 2009.
- Paul Davidovits: Physics in Biology and Medicine. Fourth edition. Academic Press, 2013.

MEDICAL STATISTICS
Students can download course material (handouts, lecture notes, R scripts) from http://www2.szote.u-szeged.hu/dmi/eng or from the Coospace.

Suggested textbook:
• Michael J. Campell – David Machin – Stephen J. Walters: Medical Statistics. A Textbook for the Health Sciences (2012) ISBN: 978-1-118-30061-9

MEDICAL DICTIONARIES
- Mosbey's: Mosbey's Medical, Nursing and Allied Health, Mosbey
- Stedmans: Medical Dictionary, Williams and Wilkins

HUNGARIAN LANGUAGE
- Erzsébet Balogh & Margit Skadra: Multikulti Magyar nyelv külföldieknek – Hungarian for foreigners. ISBN: 978 963 226 599 5. Medicina, 2016
- Margit Skadra: Elsősegély a magyar orvosi nyelvhez – First Aid for Medical Hungarian: ISBN 978 963 226 846 0. Medicina, 2022

SECOND YEAR

ANATOMY, HISTOLOGY AND EMBRYOLOGY

I. **Obligatory textbooks:**

- K. Won Chung: **Gross Anatomy**, Lippincott Williams & Wilkins
- Douglas J. Gould; James D. Fix: **BRS Neuroanatomy 5th;** Lippincott Williams & Wilkins **ISBN 13:** 9781451176094
- Crossman & Neary: **Neuroanatomy: an Illustrated Colour Text**; *ELSEVIER*
- Mtui, Gruener & Dockery: Fitzgerald's **Clinical Neuroanatomy and Neuroscience;** *ELSEVIER*
- **Sobotta Atlas of Human Anatomy: Volume 1, 15th ed., English;** *ELSEVIER*
- **Sobotta Atlas of Human Anatomy: Volume 2, 15th ed., English;** *ELSEVIER*
- **Sobotta Atlas of Human Anatomy: Volume 3, 15th ed., English;** *ELSEVIER*
- M. Loukas, B. Benninger, R. S. Tubbs : **Gray's Clinical Photographic Dissector of the Human Body;** *ELSEVIER*
- L. P. Gartner,J. L. Hiatt: **Concise Histology;** *ELSEVIER*
- K. Moore & T. V. N. Persaud: **The Developing Human**; *ELSEVIER*

II. **Recommended textbooks:**

- W. Platzer: **Color Atlas of Human Anatomy, Volume 1**: Locomotor System; *THIEME*
- H. Fritsch, W. Kuehnel: **Color Atlas of Human Anatomy, Volume 2**: Internal Organs; *THIEME*
- W. Kahle, M. Frotscher: **Color Atlas of Human Anatomy, Volume 3**: Nervous System and Sensory Organs; *THIEME*
- M. Schuenke, E. Schulte, U. Schumacher: **THIEME Atlas of Anatomy, Head and Neuroanatomy**; *THIEME*
- M. Schuenke, E. Schulte, U. Schumacher: **THIEME Atlas of Anatomy, General Anatomy and Musculoskeletal System**; *THIEME*
- M. Schuenke, E. Schulte, U. Schumacher: **THIEME Atlas of Anatomy, Neck and Internal Organs**; *THIEME*
- Junqueira, Carneiro, Kelley: **Basic Histology**, Prentice Hall, International Student Edition, Mc Graw-Hill
- Netter, Frank H.: **Atlas of Human Anatomy**, Icon Learning Systems; *ELSEVIER*
- L. R. Cochard: **Netter's Atlas of Human Embryology;** *ELSEVIER*
- Sadler: **Langman's Medical Embryology**, with Simbryo CD, *Lippincott Williams & Wilkins*
- Moore, Persaud & Torchia: **Before We Are Born**, Essentials of Embryology and Birth Defects; *ELSEVIER*
- Cochard: **Netter's Atlas of Human Embryology**; *ELSEVIER*

BIOCHEMISTRY, BIOCHEMISTRY SEMINAR

Obligatory:
- Robert K.Murray, Daryl K. Ganner, Peter A. Mayers, Vicot W. Rodwell: Harper's Illustrated Biochemistry 29th Edition 2012 ISBN: 978-0-07-176576-3

Recommended for 1st semester:
- W. J. Marshall, S. K. Bangert: Clinical Chemistry 6th Edition 2008 ISBN:9780723434559

- P.C. Champe, R. A. Harvey: Lippincott's Illustrated Reviews Biochemistry 4th Edition 2008 ISBN-13: 978-07817-6960-0

- J.W. Baynes, M. H. Dominiczak: Medical Biochemsitry 4th Edition, 2014-06-04 ISBN: 978-1-4557-4580-7

BIOCHEMICAL BASICS OF PREVENTIVE MEDICINE
- Janet Christian and Janet Greger: Nutrition for Living, Addison-Wesley

CARDIAC ELECTROPHYSIOLOGY AS A BASIC PROPERTY OF CARDIAC FUNCTION
- Macfarlane PW, van Oosterom A, Janse MJ, Camm J, Kligfield P, Pahlm O, eds. Comprehensive Electrocardiology, 2nd Ed. Springer, London

IMMUNOLOGY
- Abbas et al., Cellular and Molecular Immunology, Sanders, Elsevier; 8th Edition, 2015
- Janeway's Immunobiology 9th Edition, 2007

MATHEMATICAL AND STATISTICAL MODELLING IN MEDICINE
- Mark Woodward: Epidemiology –Study design and Data analysis, Chapman & Hall/CRC 1999
- Interesting mathematical problems in every-day life. Electronic handout in Teaching Mathematics and Statistics in Sciences HU-SRB/0901/221/088

MEDICAL ANTHROPOLOGY
- C.G.Helman: Culture, Health and Illness, Oxford University Press

MEDICAL PHYSIOLOGY
- Arthur C.Guyton, John E. Hall: Textbook of Medical Physiology, Elsevier Science
- Kim Barrett, Heddwen Brooks, Scott Biotano, Susan Barman: Ganong's Review of Medical Physiology, McGraw Hill Publishers
- Walter F. Boron, Emile L. Boulpaep: Medical Physiology, Saunders Elsevier
- William F. Ganong: Review of Medical Physiology by The McGraw-Hill Companies Inc.
- Fonyó Attila: Principles of Medical Physiology, Medicina Kiadó Zrt.
- Albert Szent-Györgyi Medical University, Department of Physiology, Physiology Laboratory Manual, (handout)
- Linda S Costanzo Physiology Elsevier

MEDICAL SOCIOLOGY
- *Obligatory*:
    - Molnár Regina, Erdős Csaba: Guide for studying medical sociology. 2022. University of Szeged, Department of Public Health
- *Recommended*:
    - Cockerham W.C. (2021). Medical Sociology. University of Alabama at Birmingham, Routledge. (5th e.)
    - Giddens, A. & Sutton, P. W. (2017). Sociology. (8th ed.). Polity Press

HUNGARIAN LANGUAGE

- Erzsébet Balogh & Margit Skadra: Multikulti Magyar nyelv külföldieknek – Hungarian for foreigners. ISBN: 978 963 226 599 5. Medicina, 2016
- Margit Skadra: Elsősegély a magyar orvosi nyelvhez - First Aid for Medical Hungarian. ISBN: 978 963 226 846 0 Medicina, 2022

THIRD YEAR

HUNGARIAN LANGUAGE

- Hungarian language for 3rd year medical students (Csilla Keresztes, Marietta Kiss, Eszter Asztalos-Zsembery, Andrea Stötzer, Rita Vástyán, Zsuzsanna Szűcs, Krisztina Helle - University of Szeged; Gabriella Hild, Zoltán Krommer, Gabriella Nagy, Judit Sávay, Tímea Németh - University of Pécs; Medical editors: Krisztina Helle, MD, Atilla Farkas, MD) JPress, 2022

INTERNAL MEDICINE (CLINICAL DIAGNOSTICS)

Obligatory:

- Barbara Bates': A Guide to Physical Examination and History Taking, 8th ed. with bonus CD, Lippincott Williams & Wilkins, ISBN: 078175819X

or

- Bates' Guide to Physical Examination and History Taking, Authors: Lynn S. Bickley, M.D. , Barbara Bates, Peter G. Szilagyi, Peter Gabor Szilagyi, Publication Date: December 2005., ISBN: 0781767180

Recommended:

- Harrison's Principles of Internal Medicine, Authors: Kasper, Dennis L. Braunwald, Eugene Fauci, Anthony Hauser, Stephen Longo, Dan Jameson, J. Larry, ISBN: 0071391401, Publication Date: 2004-07-27, Edition:16
- Te-Chuan Chou: Chou's Electrocardiography Clinical Practice, 5th ed., W.B. Saunders, 2001., ISBN: 0721686974
- Brostoff: Clinical Immunology – An Illustrated Outline, Mosby, 1994, ISBN: 1563756641
- Kumar, Parveen, Clark, Michael: Clinical Medicine, 5th ed., W. B. Saunders, 2002, ISBN: 0702025798
- Current Medical Diagnosis and Treatment 2006, Author(s): Lawrence M. Tierney, Jr., MD; Stephen J. McPhee, MD; Maxine A. Papadakis, MD, ISBN: 0071454101, Publication date: 2005, Edition 45th
- Stone: Current Emergency Diagnosis & Treatment, 5th ed., Appleton & Lange, 2004., ISBN: 0071219757

MICROBIOLOGY

- Greenwood et al., Medical Microbiology; 18th Edition, 2012
- Murray et al., Medical Microbiology, Elsevier, Mosby; 8th Edition, 2015
- Practical Notes (Edited by R. Pusztai, University of Szeged, 2002)

MICROSURGERY

- Szabó, A., Vass, G., Zádor, Z., Boros, M.: Basics of Microsurgery. Manual for Medical Students, Szeged, 2004. (handout)

PATHOLOGY

- Kumar, Abbas, Aster: Robbins Basic Pathology, 10th edition. Elsevier, 2018. ISBN: 9780323353175

PATHOPHYSIOLOGY

Textbook

Obligatory

- Gary D. Hammer, Stephen J. McPhee. **Pathophysiology of Disease: An Introduction to Clinical Medicine** 8th Edition, (2019) LANGE McGraw-Hill Education.
- Krisztina Csabafi et al. ECG guide, (2020) - notes

Recommended

- Vinay Kumar, Abul K. Abbas, Jon C. Aster. Robbins and Cotran Pathologic basis of disease 9th edition, (2014) Elsevier Books.
- Malcolm S. Thaler. Only EKG book you'll ever need, (2018) Wolters Kluwer Health.

SURGERY (CLINICAL DIAGNOSTICS)

- Ed.: Norton, Barie, Bollinger, Chang, Lowry, Mulvihill, Pass, Thompson, Shirazi: Surgery: Basic Science and Clinical Evidence (Book with CD-ROM), Springer, 2000., ISBN: 038798447X
- Ed. Norton, Barie, Bollinger, Chang, Lowry, Mulvhill, Pass, Thompson, Shirazi: Surgery: Basic Science and Clinical Evidence 2nd ed. 2008 Edition, Springer 2008, ISBN-13: 978-0387308005 /ISBN-10: 0387308008

BASICS OF EMERGENCY MEDICINE

- Boros, M. (Ed.): Monitoring in Medical Practice. Basic Medical Skills. Innovariant Ltd., Szeged, 2007. ISBN 963-482-787-X
- Boros, M. (Ed.): Practical Skills Syllabus. Innovariant Ltd., Szeged, 2007. ISBN 978-963-482-840-2

MICROSURGERY

- Szabó, A., Vass, G., Zádor, Z., Boros, M.: Basics of Microsurgery. Manual for Medical Students. Szeged, 2004. (handout)

BASIC SURGICAL SKILLS, ADVANCED SURGICAL SKILLS

- Boros, M. (Ed.): Surgical Techniques. Medicina, Budapest, 2009. ISBN 978-963-226-256-7
- Boros, M. (Ed.): Practical Skills Syllabus. Innovariant Ltd., Szeged, 2007. ISBN 978-963-482-840-2
- Kirk, R. M.: Basic Surgical Techniques, 6th Edition. Churchill Livingstone, 2010. ISBN: 978-0-7020-3390-2

BASIC IMMUNOPATHOLOGY

- Abbas, A. K., Lichtman, A. H., Pillai, S: Cellular and Molecular Immunology. 7th Edition. Elsevier, Saunders, Philadelphia, 2011. ISBN: 978-0-8089-2425-8

LABORATORY MEDICINE

- William J. Marshall: Clinical Chemistry, 4th, 5th or 6th Edition, MOSBY – Harcourt Publishers Ltd. 2008, ISBN 0-72-34-3159-0

FOURTH AND FIFTH YEAR

ANAESTHESIOLOGY AND INTENSIVE THERAPY

Recommended:

- Keith G. Allman, Iain H. Wilson: Oxford Handbook of Anaesthesia, Oxford University Press, 2006. ISBN 0-19-856606-3
- Tim Craft, Jerry Nolan, Mike Parr: Critical Care, BIOS Scientific Publishers Ltd. 2009. ISBN 1-85996-2229-7

For fifth year students

Obligatory:

- Zsolt Molnár (Edited by): Anaesthesiology and Intensive Therapy (Medicina Könyvkiadó Zrt., 2013)

Recommended:

- Smith and Aitkenhead's Textbook of Anaesthesia
- Morgan and Mikhail's Clinical Anesthesiology

CHILD AND ADOLESCENT PSYCHIATRY

- Robert Goodman and Stephen Scott, Child Psychiatry, 1998

CLINICAL IMMUNOLOGY

- Spickett, Gavin: Oxford Handbook of Clinical Immunology, Oxford University Press, 2006, ISBN:019262721x

CLINICAL ONCOLOGY

- The principles of the complex management of cancer. Lecture notes University of Szeged, Faculty of Medicine Department of Oncotherapy, Edition 3, 2018.

CLINICAL GENETICS

***Obligatory textbooks*:**

1. Lecture notes
2. *Emery's Elements of Medical Genetics. Peter Turnpenny, 15th edition, Elsevier, 2017*

***Recommended textbooks*:**

1. SMITH'S: Recognisable patterns of human malformation 2006
2. Human *Genetics.* A problem-based *approach.* Korf BR, 2nd ed, 2000, 2007.
3. Thompson and Thompson Genetics in Medicine by Robert L. Nussbaum, M.D. , Ada Hamosh, M.D. (Contributor), Huntington F. Willard, Ph.D., Margaret W. Thompson, Roderick R. McInnes, M.D., Paperback, Elsevier Science Health Science div 2007

CLINICAL MICROBIOLOGY

- Peter H. Gilligan, Daniel S. Shapiro and M. Lynn Smiley: Cases in Medical Microbiology and Infectios Diseases, Publisher: Amer Society for Microbiology, Published Date: 1992, ISBN 1555810454
- Hilary HUmphreys, William L. Irving: Problem-Oriented-Clinical Microbiolgy and Infection, 2nd Edition, Publisher: Oxford University Press, 2004, ISBN: 0198515855
- W. Peters.H.M.Gilles: Color Atlas of Tropical Medicine and Parasitology, 4th Edition, London, Mosby, Wolfe, 1995, ISBN: 0723420696

DERMATOLOGY

James Dinulos: Habif's Clinical Dermatology 7th Edition. A Color Guide to Diagnosis and Therapy. eBook ISBN: 9780323612708. Free access with ClinicalKey through the Klebelsberg Library.

FORENSIC MEDICINE

Compulsory:

- Reinhard B. Dettmeyer, M.A. Verhoff, Harald F. Schütz Forensic Medicine Fundamentals and Perspectives, Springer-Verlag Berlin Heidelberg 2014 ISBN 978-3-642-38817-0, ISBN 978-3-642-38818-7 (eBook)

Recommended:

- Jason Payne-James ed.: Simson's Forensic Medicine 14th Edition, 2019 CRC Press ISBN-9781498704298
- Lecture Notes of Forensic Medicine (Ed.: P. Sótonyi, E. Keller), Semmelweis Publisher, 2008. ISBN 978 963 9656 92 5

HOW TO USE MICROBIOLOGY LABORATORY RESULTS TO DIAGNOSE AND TREAT INFECTIOUS DISEASES; INTERACTIVE; PROBLEM-BASED CASE

- Cases in Medical Microbiology and Infectious Diseases, By Gilligan PH, Smiley ML, Shapiro DS 3rd Edition
- Problem-Oriented Clinical Microbiology and Infectious Diseases, By Humphreys H, Irving WL, Hart CA, 2nd Edition
- Atlas of Tropical Medicine and Parasitology, By Wallace Peters and Geoffrey Pasvol, 6th Edition

HUNGARIAN LANGUAGE

Obligatory:

- GYŐRFFY, Mária: Mi a panasz?, Idióma Bt. Pécs, 1999, ISBN 963 04 8860 4
- HILD, Gabriella et al. Listening Tasks For Students of Hungarian for Medical Purposes – Doctor–Patient Dialogues. University of Pécs, 2018. ISBN 978-963-429-215-9

INTERNAL MEDICINE

Obligatory:

- Hoffbrand, Moss: Essential Haematology, Wiley, 6th edition
- Harrison's Principles of Internal Medicine (2 Volume Set), Kasper, Dennis L. Braunwald, Eugene Fauci, Anthony Hauser, Stephen Longo, Dan Jameson, J., Larry, 16th ed., 2004, McGraw-Hill, ISBN: 0071391401
- Gibson, Costabel: Respiratory Medicine (2 Volume Set), 3rd ed., W. B. Saunders, 2002., ISBN: 0702026131
- Te-Chuan Chou: Chou's Electrocardiography Clinical Practice, 5th ed., W.B. Saunders, 2001., ISBN: 0721686974
- Forster T., Csanády M.: Atlas of Colour Doppler Echocardiography, Szeged, 1991.,
- I.J. Mazza: Manual of Clinical Hematology, Oxford Textbook of Nephrology JS Cameron, AM Davison et al, Oxford University Press, 2001., ISBN: 078172907
- The Merck Manual of Diagnosis and Therapy, Merck and Co. Inc. 2006., ISBN: 0911910182

Recommended:

- Stone: Harrison's Principles of Internal Medicine: Self Assessment and Board Review: ISE, International Student Edition, McGraw-Hill, 2001., ISBN: 0071203591
- Brostoff: Clinical Immunology – An Illustrated Outline, Mosby, 1994, ISBN: 1563756641
- Stone: Current Emergency Diagnosis & Treatment, 5th ed., Appleton & Lange, 2004., ISBN: 0071219757
- Cheitlin: Clinical Cardiology, 7th ed. (to be published in January 2006), Appleton & Lange, ISBN: 0838513859
- Current Medical Diagnosis and Treatment 2006, Author(s): Lawrence M. Tierney, Jr., MD; Stephen J. McPhee, MD; Maxine A. Papadakis, MD, ISBN: 0071454101, Publication date: 2005, Edition 45th, ISBN: 034061370X

LABORATORY DIAGNOSTICS: USE OF LABORATORY TESTS IN PRACTICE

- William J. Marshall: Clinical Chemistry, 4th , 5th or 6th Edition, MOSBY – Harcourt Publishers Ltd., 2008, ISBN: 0-72-34-3159-0

MEDICAL PSYCHOLOGY

- *Lecture handouts* (will be posted on the homepage of the Behavioral Sciences Institute)
- Márta Csabai – Péter Molnár: *Health, Illness, and Care. A textbook of medical psychology.* Budapest, 2000. Springer (available in the library of the Behavioral Sciences Institute)
- Suls J.M. – Davidson, K. – Kaplan, R.M. (eds): *Handbook of Health Psychology and Behavioral Medicine.* The Guilford Press, 2010. (available in the library of the Behavioral Sciences Institute)
- János Pilling (ed): *Medical Communication.* Budapest, 2011. Medicina (available in the library of the Behavioral Sciences Institute)

MEDICAL REHABILITATION AND PHYSICAL MEDICINE

Obligatory textbooks:

- Vekerdy-Nagy Zs (2016): Evidence Based Rehabilitation Medicine. Medicina Press, Budapest. (in Hungarian)

Recommended textbooks:

- Huszár I, Kulmann J, Tringer L (2006): The Practice of Rehabilitation. Medicina, Budapest. (in Hungarian)
- Csabai M, Molnár P (2009): Medical Psychology and Clinical Psychology. Medicina, Budapest. (in Hungarian)

NEUROLOGY

- Rowland, L.P: Merritt's Textbook of Neurology, Lea and Febiger, Philadelphia, 1995., ISBN: 0683074008
- Simon, R. P., Aminoff, M. J., Greenberg, D. A: Clinical Neurology, Appleton and Lange, 1993., ISBN: 0838514782
- Adams, R., Victor, M: Principles of Neurology, McGraw Hill, 1996., ISBN: 0070674396

NEUROSURGERY

- Andrew Kaye: Essential Neurosurgery, Churchill Livingstone, ISBN: 0443043507, available online: https://archive.org/details/EssentialNeurosurgery
- Mark S. Greenberg – Handbook of Neurosurgery (ISBN: 978-1-60406-326-4)

BASIC AND PRECLINICAL MODULE SYLLABUS

Academic English for medical students I.

Semester:	1st or 3rd	**Code:**	AOK-OASZV761
Course type:	Practice	**Category:**	elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Term Mark

topic

* Placement test and Breaking news;
* Introduction to scientific and medical language use: note-taking techniques and word formation (definitions, word order, collocations);
* Understanding a text: reading (scan/skim/read for detail);
* Writing with a purpose: essays (with special attention to paragraphs, topic sentences and hedging) and descriptions (graphs, figures, tables);
* Oral skills: ppt and presentation (including all knowledge gained with special attention to signposting and presentation skills).

Academic English for medical students II.

Semester:	2nd or 4th	**Code:**	AOK-OASZV762
Course type:	Practice	**Category:**	elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Term Mark

topic

* An introduction to medical English
* Cohesion and coherence in written language: essay writing
* Nouns and noun combinations in medical English
* Reading for data (graphs and tables)
* Comparison in scientific language
* Cause and effect in medical language use
* Most practical verb tenses in science
* Modal verbs in medicine
* Linking words and meaning construction in writing

Advanced Surgical Skills

Semester:	5th-10th	**Code:**	AOK-OAKV351/AOK-OAKV352
Course type:	Lecture/Practice	**Category:**	compulsory elective
Hours/week:	1/1	**Department:**	Surgical Research
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

	Lecture	**Practice (4 hrs every 2nd week)**
*	Laparotomy I. Abdominal pain. History of abdominal surgery. Technical background and basic principles of abdominal incisions. Anatomy, vessels and nerves of the abdominal wall. Factors affecting wound healing. Prevention of wound complications. Surgical intervention: anesthesia, positioning, skin preparation, draping, incisions, supplies	Scrubbing. Basic knotting and suturing techniques. (2 hours) (Surgical theatre, computer room)
*	Laparotomy II. Abdominal incisions. Major types, characteristics, advantages, disadvantages. Wound dehiscence (characteristics, types, repair). Basic gastrointestinal operations. Appendectomy (history, anatomy). Open appendectomy. Laparoscopic appendectomy.	Advanced suturing techniques. Would closure techniques with multiple layers. Enterotomy. Intestinal anastomosis. (2 hours) (Surgical theatre)
*	Advances suturing methods. Anastomoses (types, factors influencing healing). Anastomosis techniques. Intestinal anastomoses. Indications, principles and steps of bowel resection and anastomosis. Mechanical anastomosis – staplers. Postoperative care. Conicotomry. Tacheostomy.	The Minor Skin Procedures computer program. Local anesthesia. Ellipse excision of skin. Removal of encapsulated structures (cysts, tunors). Incision of abscesses. Minimally invasive surgery. (4 hours) (Surgical theatre, computer room)
*	Surgical hemostasis. Basics of vascular surgery. Fast tract surgery. Itraoperative endoscopy.	
*	Minimally invasive surgery I. Technical background. Equipments and instruments. Robotic and fetoscopic surgery	Advanced forms of surgical hemostasis and suturing techniques on a large animal model. Tracheostomy. Laparotomy. (4 hours) (Surgical theatre)
*	Minimally invasive surgery II. Pneumoperitoneum (pathophysiology, complications, diagnosis, treatment). Gastro-enteroanastomoses. Laparoscopic surgery. Laparoscopic cholecystectomy	

Anatomy, Histology and Embryology I. (+Dissection Practice I. & Introduction to Histology)

Semester:	1st	**Code:**	AOK-OAK021/OAK022/OAK023
Course type:	Lecture/Practice/Practice	**Category:**	compulsory
Hours/week:	2/3/2(16 hrs total)	**Department:**	Anatomy
Credit:	5/3/-	**Form of Exam:**	Exam/Term Mark/Signature

week	**Anatomy I. lecture topic**	**Dissection pract. I. topic**	**Intr. to Histology topic**
1.	Introduction to human anatomy (anatomical nomenclature, planes, directions, axes). General osteology. General syndesmology.	*General information on the classes and exams. Injury preventive directives and dissecting room regulations.* Bones of the upper limb.	
2.	General myology. General angiology.	Joints of the upper limb.	

3.	General neuroanatomy. The spinal cord segment. Formation of the plexuses from the spinal nerves.	Dissection of the muscles of the upper limb.	
4.	Nerves of the upper limb.	Blood vessels of the upper limb.	
5.	Functional anatomy of the upper limb.	Nerves of the upper limb.	**"Preliminary"** for the **Grs 5-10** and **13**.
6.	General embryology. Development of the embryo: gastrulation and neurulation.	**<u>1st practical assessment</u>** Anatomy of the upper limb. Bones of the pelvis and the free lower limb.	**"Preliminary"** for the **Grs 14** and **15**. **"Epithelial tissue"** for the **Grs 5-10** and **13**.
7.	Development of the amnion and the yolk sacs.	Joints of the pelvis and the free lower limb.	**Preliminary** Use of light microscope. Histological methods. Interpretation of histological preparations. **"Epithelial tissue"** for the **Grs 14** and **15**. **"Connective and supporting tissues, 1"** for the **Grs 5-10** and **13**.
8.	Nerve tissue, part 1.	Muscles of the pelvis and the free lower limb. No practice for the **Grs 1**, **2**, **3**, **7**, **8**, **11**, **12**, **13**, **14** and **15** will be held, due to the national holiday on Oct 23.	**Epithelial tissue** Kidney (HE) Jejunum (PAS+H) Trachea (HE) Oesophagus (HE) Finger pad (HE) Submandibular gland (HE) No practice for the for the **Grs 5-10** and **13** due to the national holiday on Oct 23. **"Connective and supporting tissues, 1"** for the **Grs 14** and **15**.
9.	Nerve tissue, part 2.	Blood vessels and nerves of the lower limb. No practice for the **Grs 1**, **2**, **3**, **7**, **8**, **11**, **12**, **13**, **14** and **15** will be held, due to the autumn break Oct 30 – Nov 01.	**Connective and supporting tissues, 1** Finger pad (HE) Tendon (HE) Adipose tissue (HE) Adipose tissue (frozen section, Sudan Red) No practice for the for the **Grs 5-10** and **13-15** due to the autumn break Oct 30 – Nov 01.
10.	The structure and biomechanical features of the trunk. The layers of the thoracic wall. Surface projections of the thoracic organs.	**<u>2nd practical assessment</u>** Anatomy of the lower limb. Bones, joints of the trunk. Anatomy of the thoracic cage.	**Connective and supporting tissues, 2** Hyaline cartilage (HE) Elastic cartilage (orcein) Fibrocartilage (HE) Bone (ground section) Endochondral ossification (HE)
11.	Anatomy of the upper airways.	Superficial and deep back muscles. The diaphragm.	**Muscle tissue** Smooth muscle (HE) Skeletal muscle (cross section, HE) Skeletal muscle (longit. section, HE) Cardiac muscle (HE) Cardiac muscle (iron hematoxylin)

12.	Anatomy of the lower airways. Development of the respiratory system. Divisions and layers of the mediastinum	Surface anatomy of the thoracic wall. Projection of the thoracic organs onto the chest wall. Superior mediastinum.	**Nerve tissue, 1** Sensory ganglion (HE) Spinal cord (HE) Cerebral cortex (HE) Cerebellum (HE) Vegetative ganglion (Ag)
13.	Functional and cross-sectional anatomy of the thorax.	Anatomy of the nasal cavity, paranasal sinuses, larynx, trachea, lungs and the pleura.	**Nerve tissue, 2** Peripheral nerve (longit. section, HE) Peripheral nerve (cross section, HE) Peripheral nerve (longit. section, Os) Peripheral nerve (cross section, Os) Astrocyte (GFAP IHC)
14.	Organization of the vegetative nervous system.	**3rd practical assessment** Anatomy of the trunk, the thorax and the respiratory system. General recapitulation.	**Respiration** Trachea (HE) Lung (HE) Lung (orcein+H) Recapitulation.

Anatomy, Histology and Embryology II. (+Dissection Practice II. & Histology Practice I.)

Semester:	2nd	**Code:**	AOK-OAK024/OAK025/OAK026
Course type:	Lecture/Practice/Practice	**Category:**	compulsory
Hours/week:	2/3/2	**Department:**	Anatomy
Credit:	3/3/2	**Form of Exam:**	Exam/Term Mark/Term Mark

week	Anatomy II. lecture topic	Dissection pract. II. topic	Histology pract I. topic
1.	**Alimentary System** The anatomy and histology of the oral cavity; teeth, large salivary glands, and the tongue.	**Thoracic Cavity, Cardiovascular and Respiratory System** The anatomy of the mediastinum. Dissection of the superior mediastinum.	Basic tissues I.: Epithelial tissues: *Kidney (HE)* *Trachea (HE)* *Esophagus (HE)* *Skin (HE)*
2.	The anatomy and histology of the, pharynx and the oesophagus. The anatomy of the peritoneum.	The anatomy of the heart and the pericardium.	Basic tissues II.: Connective and supporting tissues: *Skin (HE)* *Ear (Orcein)* *Bone (ground section)* *Enchondral ossification (HE)*
3.	The anatomy and histology of the stomach, small intestine, large intestine and the rectum. The topography, anatomy and histology of the spleen.	Removal and dissection of the lungs and the bronchial tree. Dissection of the posterior mediastinum and the intercostal space.	Basic tissues III.: Muscle tissues and nervous tissue *Smooth muscle (HE)* *Skeletal muscle (HE)* *Cardiac muscle (HE)* *Peripherial nerve (HE)* *Sensory ganglion (HE)*

4.	The anatomy, blood circulation and histology of the liver and the gall bladder. The anatomy and histology of the pancreas.	The anatomy of the nasal cavity, nasopharynx and the paranasal sinuses. The anatomy of the larynx.	Histology of the blood vessels and the respiratory system *Aorta (resorcin-fuchsin)* *Artery & Vein (HE)* *Trachea (HE)* *Lung (HE)*
5.	Blood supply, lymphatic drainage and innervation of the organs of the abdominal cavity. Topography of the abdominal organs.	**<u>Practical assessment</u>: Anatomy of the thoracic cavity, mediastinum, heart, and the respiratory system. (nasal cavity, larynx, trachea and lungs)**	Histology of the digestive system I. *Lip (HE)* *Dorsum linguae (HE)* *Circumvallate papilla (HE)* *Parotid gland (HE)* *Submandibular gland (HE)*
6.	**<u>Urogenital System</u>** Gross anatomy, blood supply and histology of the kidney. Anatomy and histology of the ureter, urinary bladder and the urethra.	**<u>Abdominal Cavity and the Digestive System</u>** Abdominal regions, abdominal situs and projection of the viscera. Opening of the abdominal cavity, inspection of the viscera. Dissection of the lesser and greater omentum, the omental bursa, the recesses of the peritoneum.	Histology of the digestive system II. Esophagus (HE) Cardia (HE) Fundus, corpus (HE) Duodenum (HE) Jejunum (HE) Jejunum (PAS) Ileum (HE)
7.	The anatomy and histology of the male genital organs.	Dissection of the stomach, the small and large intestines. Examination of the liver and the pancreas. Dissection of the hepatoduodenal ligament.	Histology of the digestive system III. Large intestine (HE) Vermiform appendix (HE) Anal canal (HE)
8.	The anatomy and histology of the female genital organs.	Dissection of the retroperitoneum: kidneys, ureters, posterior abdominal wall.	**<u>Practical assessment:</u>** **Histology of the heart and blood vessels** **Histology of the respiratory and digestive systems**
9.	Nerve tissue, part 2.	Blood vessels and nerves of the lower limb. No practice for the **Grs 1**, **2**, **3**, **7**, **8**, **11**, **12**, **13**, **14** and **15** will be held, due to the autumn break Oct 30 – Nov 01.	**Connective and supporting tissues, 1** Finger pad (HE) Tendon (HE) Adipose tissue (HE) Adipose tissue (frozen section, Sudan Red) No practice for the for the **Grs 5-10** and **13-15** due to the autumn break Oct 30 – Nov 01.
10.	The structure and biomechanical features of the trunk. The layers of the thoracic wall. Surface projections of the thoracic organs.	**<u>2nd practical assessment</u>** Anatomy of the lower limb. Bones, joints of the trunk. Anatomy of the thoracic cage.	**Connective and supporting tissues, 2** Hyaline cartilage (HE) Elastic cartilage (orcein) Fibrocartilage (HE) Bone (ground section) Endochondral ossification (HE)
11.	Anatomy of the upper airways.	Superficial and deep back muscles. The diaphragm.	**Muscle tissue** Smooth muscle (HE) Skeletal muscle (cross section, HE) Skeletal muscle (longit. section, HE) Cardiac muscle (HE) Cardiac muscle (iron hematoxylin)

12.	Anatomy of the lower airways. Development of the respiratory system. Divisions and layers of the mediastinum	Surface anatomy of the thoracic wall. Projection of the thoracic organs onto the chest wall. Superior mediastinum.	**Nerve tissue, 1** Sensory ganglion (HE) Spinal cord (HE) Cerebral cortex (HE) Cerebellum (HE) Vegetative ganglion (Ag)
13.	Functional and cross-sectional anatomy of the thorax.	Anatomy of the nasal cavity, paranasal sinuses, larynx, trachea, lungs and the pleura.	**Nerve tissue, 2** Peripheral nerve (longit. section, HE) Peripheral nerve (cross section, HE) Peripheral nerve (longit. section, Os) Peripheral nerve (cross section, Os) Astrocyte (GFAP IHC)
14.	Organization of the vegetative nervous system.	**3rd practical assessment** Anatomy of the trunk, the thorax and the respiratory system. General recapitulation.	**Respiration** Trachea (HE) Lung (HE) Lung (orcein+H) Recapitulation.

Anatomy, Histology and Embryology III. (+Dissection Practice III. & Histology Practice II.)

Semester:	3rd	**Code:**	AOK-OAK027/OAK028/OAK029
Course type:	Lecture/Practice/Practice	**Category:**	compulsory
Hours/week:	2/3/2	**Department:**	Anatomy
Credit:	3/3/2	**Form of Exam:**	Comprehensive Exam/Term Mark/Term Mark

week	Anatomy III. lect. topic	Dissection prac. III. topic	Histology pract II. topic
1.	Anatomy and blood supply of the spinal cord. Fine structure of the grey and white matter. Rexed's laminae and corresponding nuclei. Arrangement of the spinal cord tracts.	*Injury preventive directives and dissecting room regulations.* The cranial base: External and internal surfaces.	**Skull** The temporal and sphenoid bones.
2.	Neuroanatomy and fine structure of the medulla oblongata, pons and mesencephalon. **Cranial nerve nuclei and the reticular formation.**	Opening of the skull, duplications of the dura mater, meningeal spaces. Vertebral canal, meninges of the spinal cord and spinal cord preparation.	**Skull** Calvaria. Bony nasal and oral cavities. Infratemporal and pterygopalatine fossae.
3.	Diencephalon: organization. Thalamus and hypothalamus. Blood supply to the diencephalon.	Cerebral hemispheres: gyri and sulci. Blood supply to the brain, the cerebral arterial circle.	**Histology** Blood smear (MGG) Red bone marrow (HE) Thymus (HE) Lymph node (HE) Spleen (HE) Palatine tonsil (HE)

4.	Neuroanatomy, synaptology, histology of the cerebellum. Neuroanatomy of the cerebellar movement regulation.	Diencephalon. Lateral and third ventricles. Flechsig's cut. The extreme, external and internal capsules. Basal nuclei (ganglia).	**Histology** Sensory nerve ending (HE) Sensory nerve ending (Ag) Spinal cord (HE) Spinal cord (myelin staining) Cerebellum (HE) Cerebellum (Ag) Neocortex (HE) Astrocytes (GFAP IHC)
5.	Neuroanatomy of the cerebral cortex. The 'module-concept' in cerebral cortex architecture. The limbic system, the hippocampus.	Structure of the brainstem, the fourth ventricle, rhomboid fossa. Exits of the cranial nerves (from the brainstem and the skull).	Blood, hematopoiesis, lymphatic system, nervous system.
6.	Basal forebrain: amygdaloid complex. Basal nuclei and their functions in the movement regulation.	Cerebellum: topography, blood supply, parts. Cerebellar nuclei. Cerebellar peduncules. Frontal sections of the brain. Hippocampus and other limbic areas.	**CNS seminar** Cross-sections of the brainstem 1: the fine structure of the medulla.
7.	Development of the nervous system.	Macroscopic anatomy of the CNS. Muscles of neck. Regions of neck: the cervical triangles. Fascial system of the neck. Surface anatomy of the neck.	**CNS seminar** Cross-sections of the brainstem 2: the fine structure of the pons.
8.	Anatomy and histology of the eye. Parts and layers of the retina. Blood supply to the retina.	Facial and masticatory muscles. Regions of head. Arterial supply, venous and lymphatic drainage of the head and cervical regions.	**CNS seminar** Cross-sections of the brainstem 3: the fine structure of the midbrain. Blood supply to the brainstem.
9.	Accessory visual structures: eyelids, lacrimal apparatus and extraocular muscles.	Facial and masticatory muscles. Regions of head. Arterial supply, venous and lymphatic drainage of the head and cervical regions.	**CNS seminar** Functional anatomy of the ascending and descending pathways.
10.	Neuroanatomy of the visual pathway. Light reflex of the pupil. Accomodation reflex. Horizontal and vertical gaze control.	The cranial nerves V and VII: ganglia and peripheral branches. Topography of the orbit.	**Histology** Hypophysis (HE) Thyroid gland(HE) Parathyroid gland (HE) Adrenal gland (HE) Corpus luteum (HE) Pancreas (HE)
11.	Anatomy, histology of the external and middle ears. Anatomy of the inner ear: osseous and membranous labyrinths.	The cranial nerves VIII, IX, X, XI and XII: ganglia and peripheral branches. Topography of the middle and inner ears.	**Histology** Eye (HE) Eyelid (HE) Lacrimal gland (HE)

12.	Organ of Corti. Fine structures of the cristae and maculae. Auditory and vestibular pathways.	Cervical plexus. Cervical part of the sympathetic trunk. Organization of the peripheral parasympathetic system in the head. Pterygopalatin fossa. Thyroid gland.	**Histology** Finger pad (HE) Hairy skin (HE) Cochlea (HE)
13.	Development of the eye and ear.	Regions of the head and neck. Anatomy of the eye.	**Histology** Resting mammary gland (HE) Lactating mammary gland (HE) Placenta (HE) Chicken embryo (HE)
14.	The branchial apparatus: formation, development and derivatives of the pharyngeal arches, pouches and grooves.	Recapitulation.	Endocrine system, sensory organs, skin, mammary gland, placenta, embryo.

Basic Immunopathology

Semester:	6th	**Code:**	AOK-OASZV171
Course type:	Lecture	**Category:**	elective
Hours/week:	1	**Department:**	Surgical Research
Credit:	1	**Form of Exam:**	Evaluation(5)

topic

* General informations. Introduction to immunopathology. Transplantation immunology: transplantation antigens, allogeneic recognition, effector mechanisms of graft rejection
* Histocompatibility testing. Immunological investigations before and after transplantation.
* Immunosuppressive therapy
* Immunology of organ transplantation. Immunology of bone marrow transplantation: graft-versus-host disease. Xenogeneic transplantation
* Reproductive immunology
* Tumor immunology: tumor antigens, antitumor immune responses. Evasion of immune responses by tumors. Immunotherapy for tumors
* Immunological tolerance. Self tolerance: central and peripheral tolerance. Mehanisms of T and B cell tolerance
* Pathomechanisms of autoimmunity: failure of self tolerance, genetic factors, role of infections and other factors; effector mechanisms. Systemic and organ specific autoimmune diseases
* Written test exam

Basic Life Support

Semester:	1st	**Code:**	AOK-OAK011
Course type:	Practice	**Category:**	compulsory
Hours/week:	2	**Department:**	Emergency Medicine
Credit:	2	**Form of Exam:**	Term Mark

week	topic
1.	Principles of first aid. Emergency situations. Victim assessment routine. Assessing respiration and pulses. Normal and abnormal pulse rates per minute.

2. The unresponsive patient. Terms of position. Extrication of the injured patient (Rautek manoeuvre).
3. Basic life support. Victim assessment and positioning. Determine unresponsiveness. Assess for breathlessness. Provide rescue breathing. Circulation. Esmarch-Heiberg manoeuvre.
4. BLS (one-person CPR, two-person CPR)
5. Obstructed airway emergencies. Heimlich manoeuvre.
6. Paediatric basic life support.
7. Bleeding (haemorrhage). Bleeding from an artery, from a vein. General procedures for controlling bleeding. Direct and indirect pressure. Arterial pulse points.
8. Recognition of patients with shock condition. Body positioning for preventing shock.
9. Classification of open wounds. Bandaging.
10. Burn injuries. Electrical injuries. Heat and cold emergencies. Water accident.
11. Mechanism of injury. Types of injury to joints and bones. Splints. Head injuries. Injuries to the spine. Injuries to the chest. Injuries to the abdomen.
12. Poisoning.
13. Heart attack. Respiratory emergencies.
14. Revision of BLS.

Basic Surgical Skills

Semester:	4th	**Code:**	AOK-OAK141/AOK-OAK142
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2 (both every 2nd week)	**Department:**	Surgical Research
Credit:	3/-	**Form of Exam:**	Exam/Signature

	Lecture	**Practice**
*	Asepsis and antisepsis. Historical background. Surgical infections, sources of infections. Types, classification, risks and prevention of wound contaminations. Sterilization, disinfection. Preparation of the patient before operation: scrub preparation and isolation of the surgical site. Scrubbing, disinfection, gowning and gloving of the operating team. Personnel attire and movement. Basic rules of asepsis in the operating room. Postoperative wound management. Surgical antisepsis. Design and equipments of the operating room, basic technical background. Operating room personnel and their duties. Positioning of the patient on the operating table. Positioning.	1- 2. General information. Scrubbing, gowning and gloving. Practical rules of asepsis in the operating room. Behavior and movement in the operating room
*	Surgical instruments. Basic surgical instruments, special surgical tools and technologies, suture materials. Wound closure (sutures, clips, adhesive strips). Imperfections of suturing techniques. Removal of sutures. Drainage.	2 – 3. Basic surgical instruments, suture materials, textiles. Scrubbing, gowning and gloving. Scrub preparation and draping of the surgical site. Making incisions (on skin pad), wound closure with sutures or clips. Practicing instrument knots by means of the Suture Tutor program.

*	The operation. Basic surgical interventions. Indications for an operation, informed consent, operative risk, the surgeon's responsibility. Preoperative investigations. Preoperative preparation of the patient. Basics of minimally invasive surgical interventions. Historical background. Components of the laparoscopic tower, laparoscopic instruments. Local anesthesia (drugs, types of local anesthesia, complications). Perioperative fluid balance, fluid requirements and fluid therapy.	4 – 5. Tying surgical knots. Tying surgical knots (hand and instrument knots). Knotting under tension and in cavities.
*	Wounds. Types and classification of accidental wounds. Wound healing, scar formation. Surgical wounds. Wound closure and its complications. Management of accidental wounds. Dressings, types of bandages. Innovations in wound treatment.	6 – 7. Skin incision, handling bleeding, closing wounds in separate layers with sutures or with wound clips. Draining of wounds. Knotting with an instruments using the Suture Tutor program.
*	Bleeding. Types and classification of hemorrhage. Signs and consequences of blood loss. Bleeding in surgery (pre-, intra- and postoperative bleeding). Factors influencing operative blood loss. Surgical hemostasis (mechanical, thermal, chemical-biological methods). Blood replacement in surgery, autotransfusion.	8 – 9. Management of accidental wounds. Dressing, types of dressing. Changing dressing under aseptic conditions. Removal of sutures.
*	Complications. Definition and classification of complications. Complications of anaesthesia. Complications of wound healing. Complications related to surgery. Haemorrhagic complications. Pathophysiology, signs and treatment of hemorrhagic shock	10 – 11. Basics of minimally invasive surgery. Components of the laparoscopic tower, laparoscopic instruments. Eupractic movements, handling of laparoscopic instruments, knotting.
*	Basics of minimally invasive surgical interventions. Historical background. Components of the laparoscopic tower, laparoscopic instruments.	12 – 13. Practical exam. (1) Surgical scrubbing and gowning (2) Knotting under tension and in a deep cavity (3) Surgical suture (mounting of a needle holder, closure of a 5 cm-long incision with Donati-stitches, instrumental knotting (max. 15 min)

Biochemical Basics of Preventive Medicine

Semester:	4th	**Code:**	AOK-OAKV051
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Biochemistry
Credit:	2	**Form of Exam:**	Evaluation(5)

week	**topic**
1.	Introduction to preventive medicine (importance of nutrition, physical activity and stress in the development of „civilization diseases")
2.	Biochemistry of oxidative stress and its importance in physiological and pathological processes (formation of free radicals and their effects)
3.	Antioxidant mechanisms (vitamins, vitaminlike substances, enzymes and their cofactors involved in antioxidant protection)
4.	Stress adaptation of the heart (early and late preconditioning)
5.	General importance of balanced nutrition (macro- and micronutrients, alimentary fibers; additives)
6.	Pathobiochemistry of atherosclerosis and possibilities of prevention
7.	Role of oxidative stress in respiratory diseases

8. Role of free radicals and antioxidant protective mechanisms in physiological and pathological brain function
9. Background and prevention of obesity, metabolic syndrome and diabetes mellitus
10. Altered requirements for nutrients in physiological and pathological conditions; diets (theory and practice)
11. Sport biochemistry: general importance of physical activity (oxidative stress and role of antioxidants; changes in blood plasma parameters)
12. Psychological stress, oxidative stress, and importance of stress management
13. Biochemical basics of preventive medicine in the light of the most recent medical literature (interactive seminar and test)
14. Biochemical basics of preventive medicine in the light of the most recent medical literature (interactive seminar and test)

Biochemistry I.

Semester:	3rd	**Code:**	AOK-OAK051/AOK-OAK052
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	4/2	**Department:**	Biochemistry
Credit:	6/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Biochemistry of the blood. RBC Biochemistry of the blood. White blood cells	PRACTICE: General information, refresment
2.	Biochemistry of the blood. blood plasma	PRACTICE: Determination of bilirubin.
3.	Biomembranes.	SEMINAR: Blood, membranes
4.	Biochemistry of the muscle	PRACTICE: electrophoresis of serum proteins
5.	Biochemistry of the connective tissue. Adhesive glicoproteins	PRACTICE: ion det. by colorimetry, blood gas analyis
6.	Biochemistry of cell adhesion, cytoskeleton. Biochemistry of liver. First pass metabolism, LFT	PRACTICE: Diagnosis of heart attack and determination of cardiovascular risk factors (chol,TG, lipoproteines)
7.	Biochemistry of liver. Biotransformation. Biochemistry of the nervous tissue. Neurotransmitters.	SEMINAR: (connective tissue, cell adhesion and cytoskeleton, nutrition)
8.	Biochemistry of the nervous tissue. Neurotransmitters. Biochemistry of the nervous tissue. Neurotransmitters.	PRACTICE: Biochemistry of liver Determination of ALAT and ASAT
9.	Biochemistry of the endocrine system.	SEMINAR: liver, muscle, nervous tissue
10.	holiday	PRACTICE: Cholinerg neurotransmission Determination of cholinesterase enzyme activity

11.	Biochemistry of the endocrine system. Regulation of gene expression.	PRACTICE: Cholinerg neurotransmission Determination of cholinesterase enzyme activity
12.	Regulation of gene expression	PRACTICE: determination of blood glucose and HbA1c
13.	Biological signalization, second messenger systems.	PRACTICE: determination of mRNA isoform levels by RT-PCR
14.	Biological signalization, second messenger systems. General principles of biochemical adaptation, limits of adaptation.	SEMINAR: endocrine system, cell signalling

Biochemistry II.

Semester:	4th	**Code:**	AOK-OAK053/AOK-OAK054
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	4/2	**Department:**	Biochemistry
Credit:	6/-	**Form of Exam:**	Comprehensive Exam/Signature

week	**Lecture**	**Practice**
1.	Proteins and bioenergetics: structure and function of proteins, thermodynamics of living systems	General information, work safety, principles of lab work
2.	Enzymology: enzyme classes, coenzymes, characterisation of enzymes, isoenzymes, multienzyme systems	**Determination of protein concentration**
3.	Enzymology: molecular mechanism of catalysis, enzyme kinetics, modulation and regulation of enzyme activity	Substrate specificity and temperature optimum of amylase enzyme activity
4.	Carbohydrate metabolism: Digestion and absorption of carbohydrates, glycolysis, pyruvate dehydrogenase enzyme complex, gluconeogenesis	**SEMINAR (proteins, enzymes)**
5.	Carbohydrate metabolism: Fructose and galactose metabolism, glycogen metabolism, pentose phosphate cycle and glucuronide shunt	**Assay of activity of alkaline phosphatase**
6.	Carbohydrate metabolism: regulation of blood glucose level, glycoproteins Lipid metabolism: Eicosanoids, digestion and absorption of lipids, lipoprotein metabolism	**SEMINAR (carbohydrate metabolism)**
7.	Lipid metabolism: lipid mobilisation, oxidation of fatty acids, ketone bodies, diabetes mellitus	**Determination of glucose-6-phosphatase activity**
8.	Lipid metabolism: Synthesis of fatty acids, synthesis of triacyl glycerols and phospholipids, sphingolipids, cholesterol and steroid metabolism	**1st MTO**
9.	Amino acid metabolism: Digestion and absorption of proteins, catabolism of essential amino acids, fate of amino group, urea cycle	SEMINAR (lipid metabolism)
10.	Amino acid metabolism: metabolism of non-essential amino acids, fate of carbon skeleton of amino acids, one-carbon units, glutathione	Determination of triacyl glycerol and cholesterol

11.	Amino acid metabolism: **Synthesis of hem and porphyrine, enterohepatic circulation of hem degradation products**	SEMINAR (amino acid metabolism)
12.	Citric acid cycle: steps and regulation of the cycle, relationship between the cycle and other metabolic pathways	**SEMINAR (citric acid cycle, respiratory chain, oxidative phosphorylation)** 2nd MTO
13.	Mitochondrial transport systems, mechanism of respiratory chain and oxidative phosphorylation	**Investigation of the oxygen consumption of isolated mitochondria**
14.	Nucleotide metabolism: synthesis and degradation of purine and pirimidine nucleotides, salvage pathways, synthesis of deoxyribonucleotides	Nucleotide metabolism Determination of uric acid concentration

Cardiac Electrophysiology as a Basic Property of Cardiac Function

Semester:	4th or 6th	**Code:**	AOK-OAKV581/OAKV582
Course type:	Lecture/Practice	**Category:**	compulsory elective
Hours/week:	1/1	**Department:**	Pharmacology
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	**topic**
1.	Introduction.
2.	Basic principles of electrophysiology, the impulse propagation in the heart I.
3.	Basic principles of electrophysiology, the impulse propagation in the heart II.
4.	The action potential of myocytes and the ionic channels determining the action potential I.
5.	The action potential of myocytes and the ionic channels determining the action potential II.
6.	Methods and techniques in cardiac electrophysiology.
7.	Electro-mechanical coupling in the heart I.
8.	Genetic background of ion-channel disturbances in the heart.
9.	Electro-mechanical coupling in the heart II.
10.	The mechanism of developing cardiac arrhythmias
11.	Electrophysiological changes after the disturbances in blood supply to the myocardium.
12.	Experimental methods and clinical relevance to investigate cardiac arrhythmias.
13.	Investigational techniques in cardiac cellular electrophysiology
14.	Practical and consultation

Cell Biology and Molecular Genetics I.

Semester:	1st	**Code:**	AOK-OAK151/AOK-OAK152
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Medical Biology
Credit:	4/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Structure and operation of the cell	Handling of technical devices
2.	The DNA	Microscopy-1

3.	Transcription, translation & proteins	Microscopy-2
4.	Mutation &jumping genes	DNA and RNA purification
5.	Bacterial genetics	Genetic exercises
6.	Genetic regulation in eukaryotes	Separation techniques
7.	Mendelian and non-Mendelian genetics	Lac operon & consultation
8.	Epigenetics	
9.	Genes and traits	
10.	Genetic diseases	
11.	Evolution	
12.	Cytoskeleton & membrane processes	
13.	Molecular biology of viruses	
14.	Frontiers of molecular and cell biology	

Cell Biology and Molecular Genetics II.

Semester:	2nd	**Code:**	AOK-OAK153/AOK-OAK154
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Medical Biology
Credit:	4/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Human genome	Molecular cloning
2.	Genetically modified organisms & cloning	PCR & DNA sequencing
3.	Cell cycle & tumor formation	Detection of DNA and RNA
4.	Molecular medicine	Detection of proteins
5.	Cell signalling-1	DNA and protein chips, DNA finger printing
6.	Cell-signalling-2	Genetic exercises
7.	Cell communication & tissue differentiation	Reporter genes & consultation
8.	Genetic regulation of ontogenesis	
9.	Neural communication & consciousness	
10.	Molecular biology of sensation	
11.	Immunogenetics	
12.	Molecular evolution	
13.	Genetics of behaviour	
14.	Genetic disease of brain and psyche	

Cerebral Blood Flow and Metabolism

Semester:	5th	**Code:**	AOK-OASZV301
Course type:	Lecture	**Category:**	elective
Hours/week:	2	**Department:**	Medical Physics
Credit:	2	**Form of Exam:**	Evaluation(5)

week	topic
1.	The blood-brain barrier
2.	Regulation of cerebrovascular tone: endothelial mechanism
3.	Regulation of cerebrovascular tone: nervous innervation
4.	Regulation of cerebrovascular tone: neurovascular coupling
5.	The cerebral metabolism
6.	Cerebral blood flow in the neonatal brain
7.	The impairment of cerebral blood flow: aging
8.	The impairment of cerebral blood flow: stroke
9.	The pathophysiology of cortical spreading depolarization
10.	The impairment of cerebral blood flow: dementia, small vessel disease
11.	Principles of clinical neuroimaging

Cytomorphology and Microtechnics

Semester:	1st, 3rd or 5th	**Code:**	AOK-OAKV211
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Cell Biology
Credit:	2	**Form of Exam:**	Evaluation(5)

week	topic
1.	Evolution of cellular organisms. General morphology of the eukaryotic cell: size, shape. Research methods for structural cell biology.
2.	Intracellular compartmentalization. Structure of the cell membrane. The endomembranes. Membrane dynamics (membrane fusion and fission).
3.	Membrane modifications: cell surface modification (microvilli, stereocilia, cilia), coupling structures (belt-, spot-, hemidesmosome), impermeable junction (tight junction), communication junctions (gap junction, chemical synapse).
4.	Structure and functions of the extracellular matrix. The lamina basalis. Cell adhesion molecules.
5.	Structure and functions of the cytoskeleton. General characteristics of cytoskeletal proteins. Actin filaments/microfilaments. Microtubules and intermedier filaments.
6.	Light- and electron microscopic structure of the cell nucleus and nucleolus. Organization of the chromatin. Chromosomes.
7.	The cell cycle. Growth and division of the cell. Mitotic and meiotic cell divisions.
8.	The endomembranes: endoplasmic reticular systems, Golgi complex. Targeted intracellular transport of ptoteins. The vesicular transport and secretion.

9. Transport across membranes. Internalization of macromolecules and viruses. Phagocytosis. Receptor-indiced endocytosis, exocytosis, transcytosis. The lysosomes.
10. Mitochondria: general characteristics and types.
11. Cyto- and histotechnics I. Nuclear / chromatin staining methods. Light- and electron microscopic enzyme histochemical methods.
12. Cyto- and histotechnics II. Light- and electron microscopic immunocytochemical and – histochemical methods.
13. Scanning electron microscopic techniques (freeze-etching, freeze-fracturing, etc.).

Fundamentals of Medical Physics

Semester:	1st	**Code:**	AOK-OASZV191
Course type:	Seminar	**Category:**	elective
Hours/week:	16 hrs total	**Department:**	Medical Physics
Credit:	1	**Form of Exam:**	Evaluation(5)

topics

* The SI unit system
* Mathematical background
* Kinematics
* Dynamics
* Energy, work
* Oscillations
* Waves
* Thermodynamics
* Optics
* Electricity
* Magnetism

Gerontology

Semester:	6th	**Code:**	AOK-OAKV321/OAKV322
Course type:	Lecture/Practice	**Category:**	compulsory elective
Hours/week:	1/1	**Department:**	Behavioural Sciences
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	**topic (Lecture/Practice)**
1.	General principles of geriatric medicine
2.	History taking with elderly patients
3.	Physical examination
4.	Mental status examination
5.	Evaluation of functional capacity in him elderly
6.	Laboratory examination
7.	Progressive constriction of each organ systems
8.	Intellectual impairment
9.	Immobility
10.	Iatrogenic drug reactions

11. Community of care
12. Quality of life and therapeutic objectives
13. Legal and ethical issues
14. Care of the dying patient

Hungarian Language I.

Semester:	1st	**Code:**	AOK-OAK601
Course type:	Practice	**Category:**	compulsory
Hours/week:	4	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Term Mark

week **topic**

1. Introduction. Basic expressions. Vowels, consonants, vowel harmony. The Hungarian alphabet.
2. Definite and indefinite articles. Numbers. Money and measurements.
3. Personal pronouns; to be present tense; the –nak, -nek ending. Nationalities, jobs, adjectives. Greetings, address forms.
4. Usage of the verb van; the –ban, -ben ending; the –n, -on, -en, -ön ending; telling the time. Buildings, places and venues; expressions with the verb van.
5. Revision 1
6. Indefinite conjugation 1 (present tense)
7. the –t ending; yes-no questions.
8. Subjects, food, drinks, vegetables, fruits.
9. Indefinite conjugation 2
10. the –val, -vel ending. Cooked food. Some Hungarian dishes.
11. Revision 2
12. Verb formation; the infinitive –ni and its usage; the –ul, -ül ending; the –lak, -lek ending.
13. Verbs, modal verbs. Festivals, fairs, events.
14. Oral tests

Hungarian Language II.

Semester:	2nd	**Code:**	AOK-OAK602
Course type:	Practice	**Category:**	compulsory
Hours/week:	4	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Term Mark

week **topic**

1. General revision
2. Conjugation of jönni and menni (present tense); the –ba, -be and –ra, -re endings; the –ból, -ből and –ról, -ről endings.
3. Means of transportation, other words in connection with transportation. Public transport in cities, travelling in Hungary.
4. Revision 3.
5. The possessive endings. Body parts, time expressions (past tense).

6. The verb fáj(t); to be past tense.
7. Past tense (first person singular only, indefinite conjugation)
8. the –kor ending; the –tól, -től and the –ig endings.
9. The –s, -os, -as, -es, -ös ending
10. linking words. Word formation. Holidays.
11. Revision 4
12. Question words; ordinal numbers. The house.
13. The –n, -on, -en, -ön ending (meaning on). Rooms and furniture.
14. Oral tests

Hungarian Language III.

Semester:	3rd	**Code:**	AOK-OAK603
Course type:	Practice	**Category:**	compulsory
Hours/week:	4	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Term Mark

week **topic**

1. General revision
2. Indefinite conjugation (past tense). Postpositions.
3. Usage of postpositions of place and time. Geography.
4. Revision 5
5. The –nál, nél, -hoz, -hez, -höz, -tól, -től endings.
6. Jobs, family.
7. Comparative and superlative forms of adjectives. Clothing, colours.
8. The possessive structure; the plural –k ending. Describing what somebody looks like.
9. Verbs
10. Definite conjugation (present tense).
11. Verbal prefixes.
12. Usage of verbal prefixes.
13. Revision 7
14. Oral tests

Hungarian Language IV.

Semester:	4th	**Code:**	AOK-OAK604
Course type:	Practice	**Category:**	compulsory
Hours/week:	4	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Preliminary Examination

week **topic**

1. General revision
2. Definite conjugation (past tense). Accusative case of personal pronouns.
3. Telling the date, the weather, the school year

4. Revision 8
5. Body parts, organs, bones
6. Symptoms
7. Health care workers, buildings and places
8. Medicaments
9. Expressions of time
10. Question words
11. Doctor's instruction
12. Parts of the medical history
13. Pain, at the doctor's, at the dentist's, at the pharmacy
14. Practising role-play
15. Practising role-play

Hungarian Language V.

Semester:	5th	**Code:**	AOK-OAK605
Course type:	Practice	**Category:**	compulsory
Hours/week:	3	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Term Mark

week	**topic**
1.	Revision
2-3.	Taking history, Doctor's questions
4.	Giving instructions and examination
	Week 5-13: Internal Medicine – Diseases
5-6.	Doctor-patient dialogues: high BP, diabetes, thyroid
5-6.	Field practice 1 (Internal Medicine)
7.	Doctor-patient dialogues: IBD
8.	Doctor-patient dialogues: reflux, esophageal varices
7-8.	Oral exam (history taking)
9-10.	Doctor-patient dialogues: cirrhosis, pancreatitis, ascites, ulcerative cholitis, cholecystitis
9-10.	Field practice 2 (Internal Medicine)
11.	History taking: Crohn's disease
12.	History taking: melena
13.	Cardiology diseases
12-13.	Field practice 3 (Internal Medicine)
14.	Oral exam (history taking)

Hungarian Language VI.

Semester:	6th	**Code:**	AOK-OAK606
Course type:	Practice	**Category:**	compulsory
Hours/week:	3	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Term Mark

week	**topic**
1.	Surgery. Interviewing the patient at the Surgery Department. General and more specific questions. Parts of the digestive tract.
2.	The most common problems of the digestive tract. Role-play, history taking of patients with oesophageal problems. Interviewing a patient with gallbladder complaints.
3.	Interviewing patients with abdominal complaints. Discussing case histories involving acute intestinal problems: appendicitis and ileus. Physical examination of the patient with acute abdominal complaints.
4.	Interviewing patients with complaints referring to herniation. Chronic conditions in the colon: tumours of the large intestine and rectum. Sending patients for further investigations. Vocabulary concerning basic imaging techniques. Mid-term test.
5.	Practising doctor-patient communication at the Surgery department: role-play, history taking and discussing possible surgical intervention with the patient. Revising the Conditional Mood. Briefing simple English case histories taken from the field of Surgery in Hungarian.
6.	Interviewing patients who suffer from problems of the thyroid gland. Interviewing patients with breast cancer. Giving advice concerning life style. Revising Auxiliary Verbs.
7.	Discussing the most common vascular problems. Interviewing patients with hypertension, vasoconstriction and varicose veins. Giving instructions concerning life style and medication. Discussing and arguing with patients.
8.	Acute cases of the vascular system: embolism and thrombosis. Interviewing patients presenting with symptoms of embolism and thrombosis. Management of acute cases.
9.	Patients at the Traumatology department. Home, road and sports accidents. Asking patients about conditions caused by accidents. Explaining medical procedures and giving advice to patients.
10.	The type of drugs/medicines. Internally and externally administered drugs. Vocabulary expansion concerning forms of medicines and their containers.
11.	The effect of drugs. Most common adverse effects. Explaining to patients how to take the prescribed medicines. General instructions.
12.	Practising doctor-patient communication: role-play, history taking and giving advice to patients concerning medication. Reading simple Hungarian case histories taken from the field of Internal Medicine.
13.	Practising doctor-patient communication: role-play, history taking and giving advice to patients concerning treatment and medication. Reading simple Hungarian case histories taken from the field of Surgery and Traumatology.
14.	Revision. Practising doctor-patient situations that can emerge in the Internal Medicine, Surgery and Traumatology department. Interviewing and examining patients, sending them for further investigations, giving advice on diet, life style and medication. Final tests (written and oral).

Immunology

Semester:	4th	**Code:**	AOK-OAK061
Course type:	Lecture	**Category:**	compulsory
Hours/week:	2	**Department:**	Immunology
Credit:	2	**Form of Exam:**	Exam

topic

* The structure and working principle of the immune system. Central and peripheral lymphoid organs. (Definition of antigen, epitope, hapten, pathogen)
* Characteristics of innate immunity. The relationship between innate and adaptive immunity.
* Complement system. Cell types and mediators involved in inflammation and acute phase response.
* The structure of MHC molecules, polymorphism. Antigen presentation. Development of T and B cells.
* Antigen recognition function of T lymphocytes. The T cell mediated immune response. T cell types, their effector functions.
* B lymphocytes. B cell activation, antigen-dependent differentiation of B cells. The structure of antibodies, antibody-mediated effector functions.
* TEST FOR RECOMMENDED GRADE
* Immune responses against extracellular pathogens. Immune responses against intracellular pathogens. Immunescape. Immunological memory. Vaccination.
* Autoimmunity. Peripheral and central immune tolerance.
* Tumor immunology. Immunotherapies and their role in tumor therapy.
* Types and characteristics of hypersensitivity reactions. Allergic reactions.
* Transplantation, pregnancy immunology, immunodeficiency pathology.
* 2. TEST FOR RECOMMENDED GRADE
* The structure and working principle of the immune system. Central and peripheral lymphoid organs. (Definition of antigen, epitope, hapten, pathogen)

Internal Medicine I.

Semester:	6th	**Code:**	AOK-OAK161/AOK-OAK162
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Internal Medicine
Credit:	4/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Gastroesophageal Reflux Disease (GERD) Diagnostic endoscopy	Problem oriented evaluation of the symptoms of patients with esophageal disorders
2.	Extraesophageal manifestations of GERD, esophageal motility disorders Barrett's oesophagus, esophageal malignancies	Practical aspects of the functional evaluation of patients with esophageal disorders (esophageal manometry, 24 h pH-metry, evaluation of the biliary reflux)
3.	Gastroduodenal ulcer disease (H.pylori, NSAID) Gastric malignancies	Upper gastrointestinal endoscopy
4.	Functional Dyspepsia (EPS, PDS) Irritable Bowel Syndrome (IBS)	Symptomatic evaluation of the liver patient. Problem oriented laboratory investigation of the liver patient.

5.	Chronic hepatitis Endosonography	Symptoms of biliary obstruction, investigative methods for patients with biliary obstruction (symptoms, biochemistry, ultrasonography, ERCP)
6.	Cirrhosis of the liver Diseases of the gallbladder and the biliary tract	Symptoms of patients with acute pancreatitis Diagnostic work up of patients with acute pancreatitis
7.	Tumors of the liver and other liver diseases Acute pancreatitis	Diagnostic work up of patients with chronic pancreatitis and pancreatic cancer
8.	Chronic pancreatitis, maldigestion Pancreatic cancer	Diagnostic work up of patients with CU and Crohn's disease.
9.	Crohn's disease Ulcerative colitis	Early identification of patients with colorectal cancer. Diagnostic methods.
10.	Malabsorption syndrome Gastrointestinal bleeding	Symptoms of malabsorption, maldigestion, Diagnostic workup: Hydrogen, c13 urea and starch breath tests
11.	Nutritional support Tumors of the large intestine	Practical aspects of the diagnosis and therapy of patients with diabetes mellitus; the patient education.
12.	Chronic constipation Colonic diverticular disease, Anorectal Hyperuricemia, gout	Practical aspects of insulin therapy. Treatment of dyslipoproteinemias
13.	Therapeutic endoscopy Gastrointestinal manifestations of systemic diseases	Physical examination of patients with rheumatoid diseases
14.	Translational pancreatology	Consultation

Introduction to Medical Informatics

Semester:	1st	**Code:**	AOK-OAKV481/AOK-OAKV482
Course type:	Lecture/Practice	**Category:**	compulsory elective
Hours/week:	1/2	**Department:**	Medical Physics
Credit:	3/-	**Form of Exam:**	Evaluation(5)/Signature

week	**Lecture**	**Practice**
1.	Informatics revolutionized medicine and medical research	General information, hardware and software environment of the practice, CooSpace, eduID, Office 365, MS Teams
2.	Computer architecture: form personal computers to supercomputers and smart devices	Smart telemedicine devices and applications in practice (data collection)
3.	Computer software, Operating Systems, viruses	Introduction to spreadsheets using MS Excel (data input, data validation, autofill)
4.	Medical image processing	Evaluation of medical data with spreadsheets (references, calculations, functions)
5.	Integrated hospital information systems (MedSol), standards, medical digital image networks	Evaluation of medical data with spreadsheets (basic statistics, advanced functions)
6.	Computer networks	Evaluation of medical data with spreadsheets (charts, sorting, filtering)

7.	Internet, cloud computing and data security	Evaluation of medical data with spreadsheets (regression, large tables, pivot table)
8.	Data presentation	1st practical test
9.	Telemedicine	Creating scientific presentation (PowerPoint, Prezi, Mentimeter)
10.	Perspectives of telemedicine	Medical data on the web. Creating online medical surveys and forms
11.	Medical applications of 3D design and printing	Documents, formatting large documents (styles, table of contents, figures and captions, list of figures)
12.	3D bioprinting	Advanced document editing (header, footer, footnote, endnote, cross reference, references)
13.	Medical applications of virtual and augmented reality	2nd practical test
14.	Deep Learning, AI for medicine	MedSol demonstration

Introduction to Medicine

Semester:	1st	**Code:**	AOK-OAK041/AOK-OAK042
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Behavioural Sciences
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week **topic (lectures)**

1. Introduction
2. Modern concept of health and illness
3. What influences health?
4. Community diagnosis and descriptive epidemiology
5. Analytic epidemiology, concept of risk
6. Prevention, screening
7. Health promotion, behavioral medicine, stress management
8. History of Medicine I. Earliest medicine, antique times
9. History of Medicine II. Medicine in middle ages, Renaissance, Enlightenment
10. History of Medicine III. Science and technology in the 19th-20th centuries
11. Medical Ethics I. Basic principles of bioethics
12. Medical Ethics II. Medical profession and the Hippocratic oath
13. Medical Ethics III. Ethics, morality and ethical theories

topic (practices)

* Introduction I-II.

* Health and illness I-II.
* What influences health? Stress and lifestyle I-II.
* Epidemiology I-II.
* Prevention and health promotion I-II.
* Basic principles and practice of medical ethics I-II.
* Consultation

Introduction to Psychology, Communication

Semester:	2nd	**Code:**	AOK-OAK131/AOK-OAK132
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1(total 7)/2(total 14)	**Department:**	Behavioural Sciences
Credit:	1/-	**Form of Exam:**	Evaluation(5)/Signature

week	**Lecture**	**Practice**
1.	Scope of psychology. Contemporary themes, perspectives of psychology	Levels and elements of the communication process
2.	Sensation, perception, top-down processes /Attention and memory	Factors that influence communication
3.	The psychology of social interactions	Means of verbal and nonverbal communication
4.	Motivation. Emotions /Attitudes and cognitive dissonance	CLASS-model: setting up the context
5.	The mechanism of human behavior I-II.	Situational exercises
6.	Intelligence	Situational exercises
7.	Personality theories I-II.	Consultation

Latin Based Medical Terminology I.

Semester:	1st	**Code:**	AOK-OAK071
Course type:	Practice	**Category:**	compulsory
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Signature

week	**topic**
1.	Phonological aspects of the language, writing and pronunciation. The general features of the Latin noun (*number, case and gender*).
2.	Major rules of the declensions. The dictionary forms of the Latin nouns in all declensions. General features of different medical texts. Vocabulary about the structure of the human body.
3.	Latin words and Greek elements used parallel in medical terminology. Translation of possessive phrase with the usage of dictionary forms.

4. Typical endings of the dictionary forms and irregularities of the usages with possessive phrases. Basic anatomical vocabulary.
5. The typical endings of the third declension. Usage of the *pluralis nominativus* in all declensions. Greek elements of diseases.
6. Translating and constructing possessive phrase in plural with multiple elements. The special usage of the third declension.
7. Exercise of anatomical phrases in plural. General issues of complex medical phrases and the connected genres.
8. Translation and construction of simple adjective phrases with the usage of the agreement rule in singular.
9. Irregularities of the 2 ending adjectives and construction of phrases with them.
10. Practice of adjective phrases and combining them with possessive structures. Translating and constructing basic diagnoses.
11. Constructive complex medical phrases with the combination of adjective and possessive phrases.
12. Translational practices (diagnoses, processes, diseases and reports).
13. Constructional practices (diagnoses, processes, diseases and reports).
14. Practice of the Greek and Latin elements of medical Latin. Retake of the second test.

Latin Based Medical Terminology II.

Semester:	2nd	**Code:**	AOK-OAK072
Course type:	Practice	**Category:**	compulsory
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Signature

week **topic**

1. Revision: Practice of the rule of agreement. Basic features of the Greek elements in Medical Latin and elements connecting to the abdominal organs and upper body.
2. Repetition: Constructing of complex phrases with adjective and possessive phrases. Translation of basic diagnoses. Linguistic. and elements concerning genitals and general expressions.
3. General features of the accusative case (the neutrum rule, prepositions). Greek elements about the major body parts.
4. Practice. Constructing complex phrases and translating medical reports with prepositions. Greek elements on general clinical terms.
5. General features of the ablative case (prepositions, roots of the third declension).
6. Practice. Translation and construction of complex medical reports with the usage of possessive, adjective, prepositional phrases.
7. Practice. Construction and translation of phrases combining ablatives and accusative case prepositions, including Greek clinical terminology.
8. Latin numerals. Usage of Latin ordinals and cardinals. Basic features of Latin prescription.
9. Construction of basic prescriptions and terms of basic materials and substances.
10. Complex prescriptions. Typical abbreviations, pharmaceutical phrases, and clinical terms of prescriptions.
11. Translation and construction of complex prescriptions from FONO. Basic information about medical reports.
12. Translation of medical reports and improving of Latin reading skills.

13. Translational practices (diagnoses, processes, diseases, and reports).

14. Revision: Practice of the rule of agreement. Basic features of the Greek elements in Medical Latin and elements connecting to the abdominal organs and upper body.

Mathematical and Statistical Modelling in Medicine

Semester:	4th or 6th	**Code:**	AOK-OASZV291/OASZV292
Course type:	Lecture/Practice	**Category:**	elective
Hours/week:	1/1	**Department:**	Medical Physics
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	**Lecture**	**Practice**
1.	Elementary mathematical functions (The logarithm and exponential functions). Definitions and graphs. Geometric meaning of the derivative and definite integral.	Elementary mathematical functions (The logarithm and exponential functions). Definitions and graphs. Geometric meaning of the derivative and definite integral.
2.	Discrete (Poisson–) and continuous (exponential, Weibull–, normal and t-) distributions	Discrete (Poisson–) and continuous (exponential, Weibull–, normal and t-) distributions
3.	Ratios, proportions and rates in epidemiology	Ratios, proportions and rates in epidemiology
4.	Conditional probability, testing proportions: the relative difference	Conditional probability, testing proportions: the relative difference
5.	One- and Two-way ANOVA	One- and Two-way ANOVA
6.	Repeated measurement ANOVA	Repeated measurement ANOVA
7.	Nonparametric ANOVA. Kruskall-Wallis, Jonckheere-Terpstra and Nemenyi tests	Nonparametric ANOVA. Kruskall-Wallis, Jonckheere-Terpstra and Nemenyi tests
8.	Linear-by-linear method. Kendall tau statistic. Logrank test	Linear-by-linear method. Kendall tau statistic. Logrank test
9.	Logistic and Poisson regression models (ROC curves)	Logistic and Poisson regression models (ROC curves)
10.	Harmonic trend and·seasonality (Edward and Walter-Elwood test, logistic regression and Cosinor method)	Harmonic trend and·seasonality (Edward and Walter-Elwood test, logistic regression and Cosinor method)
11.	Area under curve methods	Area under curve methods
12.	Non-linear regression models (Michaelis–Menten kinetics, RIA, Scatchard plots)	Non-linear regression models (Michaelis–Menten kinetics, RIA, Scatchard plots)
13.	Internal and external quality control methods	Internal and external quality control methods
14.	Decision and cost-effectiveness analysis with probabilities.	Exam

Medical Anthropology

Semester:	4th	**Code:**	AOK-OAK081
Course type:	Seminar	**Category:**	compulsory
Hours/week:	2 (14 hrs total)	**Department:**	Behavioural Sciences
Credit:	1	**Form of Exam:**	Evaluation(5)

week	topic
1.	Introduction to cultural and medical anthropology
2.	Cultural anthropology of anatomy and physiology (lay beliefs)
3.	Medical anthropology of stress and stress-related disease
4.	Medical anthropology of pain and nutrition
5.	Medical anthropology of sexuality and gynecology
6.	Cultural aspects of health care
7.	Medical anthropology of death and dying

Medical Chemistry I.

Semester:	1st	**Code:**	AOK-OAK111/AOK-OAK112
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/1	**Department:**	Medical Chemistry
Credit:	6/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	Basic terms. The mole concept. Basic structure of atoms. Electronic structure of atoms. Atomic theories. The periodic table. Explanation of periodic properties.	Important terms: atomic mass, molar mass, moles, chemical formulas, chemical reactions, stoichiometry.
2.	Chemical bonding. Octet rule. Ionic, covalent and metallic bondings. Intermolecular forces: hydrogen bonding, van der Waals forces (dipole-dipole and London forces).	Atomic models, electronic configuration of atoms. The periodic table.
3.	Introduction to inorganic chemistry. Properties of the most important elements and their compounds. Biological importance and usage. Types of metathesis reactions: precipitation and gas formation, neutralization.	Chemical bonds and intermolecular forces.
4.	States of matter. The gaseous state: gas laws, Avogadro's law. The liquid state: properties of liquids, dependence of phase changes on pressure and temperature. The solid state: properties of solids, types of crystalline lattice. Homogenous and heterogeneous systems.	Inorganic chemistry. Complexes. Summary of inorganic chemical reactions.
5.	Solutions. Types of solutions. The solution process. Ways of expressing concentration. Colligative properties. Osmosis and its biological importance.	Solutions. Calculations involving concentration of solutions.

6.	Chemical equilibrium. LeChatelier's principle. Equilibrium in electrolytes, pH and pOH. Acid-base ionization equilibrium. Salts.	Chemical equilibrium. Application of LeChatelier's principle.
7.	Electrolytic dissociation, strong and weak electrolytes. Acid-base concepts. Acid-base titration. Buffers and their biological importance.	Acid-base concepts. The pH concept. pH calculations.
8.	Thermodynamics. Basic terms. First, second and third laws of thermodynamics. Entropy and disorder. Change in Gibbs free energy and spontaneity of a reaction. Electrochemistry. Oxidation-reduction reactions. Electrical work and free energy change.	Acid-base titration. Acid-base titration problems.
9.	Voltaic cells, types of electrodes. Reference electrodes. Glass electrodes, measurement of pH. Electrolysis. Reaction kinetics. Rate, order, molecularity and mechanism of reactions. Complex chemical reactions. Catalysis. Enzymes as biocatalysts.	Buffers. Calculations involving buffers.
10.	General principles of organic chemistry. Classification of organic compounds. Functional groups. Types of organic chemical reactions: substitution, addition, and elimination. Alkanes (paraffin hydrocarbons). Cycloalkanes.	Brief summary of thermodynamics. Electrochemistry. Spontaneity of redox reactions.
11.	Alkenes. Alkynes. Isoprene, mevalonic acid, terpenes. Carotinoids. Vitamin A. The photochemistry of vision. Polarization in organic compounds: inductive and conjugation effects. Structure of conjugated dienes. Absorption of light, color compounds.	Voltaic cells. Calculations involving the Nernst equation. Brief summary of reaction kinetics.
12.	Aromatic hydrocarbons. Structure and stability of benzene and its derivatives. Chemical reactions of aromatic compounds.	Types of organic chemical reactions. Saturated and unsaturated hydrocarbons.
13.	Organic halogen compounds. Hydroxyl group containing organic compounds: alcohols, enols and phenols. Classification, nomenclature and chemical properties of alcohols. Some important alcohols.	Inductive and conjugative effects in organic compounds. Aromatic hydrocarbons.
14.	Phenols. Acidity of phenols. Nomenclature and chemical reactions of phenols. Oxidation of phenols, quinones. Esters formed with inorganic acids. Ethers. Thioalcohols, thioethers, sulfoxides and sulfones.	Organic halogen compounds. Alcohols and phenols. Ethers and sulfur-containing organic compounds.

Medical Chemistry II.

Semester:	2nd	**Code:**	AOK-OAK113/AOK-OAK114
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/3	**Department:**	Medical Chemistry
Credit:	6/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice (seminar 1hr, practice 2hrs/w)**
1.	Classification and nomenclature of amines. Basicity of amines, salt formation. Biologically important amines and aminoalcohols. Amines as neurotransmitters. Reactions of amines. Azodyes, sulfonamides and its chemotherapy. Classification and nomenclature of heterocyclic compounds. Three- and four-membered heterocycles: beta-lactams. Five-membered heterocycles with one and two heteroatoms.	seminar: Review of organic chemical reactions practice: Review of requirements. Fire and safety precautions. The principle of photometry, Lambert-Beer law.
2.	Six-membered heterocycles with one heteroatom: flavonoids, nicotinamide, NAD and NADH. Six-membered heterocycles with two heteroatoms: pyrimidines (barbituric acid and barbiturates), purines (uric acid).	seminar: Amines practice: Volumetric analysis. Using a pipette and a burette, measuring pH. Acid-base titration, titration curve.
3.	Oxo compounds. Structure of the carbonyl group. Chemical reactions of aldehydes and ketones. Important oxo compounds: quinones, coenzyme Q and vitamin K. Classification and nomenclature of carboxylic acids. Acidity, salt formation. Homologous series of saturated and unsaturated carboxylic acids. Fatty acids. The role of fatty acids in biological membranes. Prostaglandines.	seminar: Heterocyclic compounds practice: Graded practice
4.	Three-dimensional structure of molecules: constitution, configuration and conformation. Optical isomerism. Enantiomers, racemates. Configuration: D-L and R-S systems. Molecules with more than one chiral center. Diastereomers.	seminar: Oxo compounds practice: Graded practice
5.	Dicarboxylic acids. Unsaturated and hydroxy carboxylic acids. Oxo acids, "ketone bodies". Derivatives of carbonic acid: urea, guanidine, creatine, phosphocreatine. Carboxylic acid derivatives: esters, thioesters, acyl halides, anhydrides, amides. Acylation reaction, acylating agents.	seminar: Chirality, optical isomerism practice: Modeling of chirality
6.	Acid-catalyzed esterification and hydrolysis of esters. Soaps, detergents. Phosphoglycerydes. Plasmalogens. Sphingolipids. The structure of biological membranes.	seminar: Carboxylic acids. Dicarboxylic acids. Substituted carboxylic acids practice: Graded practice
7.	Classification and nomenclature of amino acids. Proteinogenic amino acids. Amphoteric character: isoelectric points. Essential amino acids, biological importance. Qualitative tests, preparation and separation of amino acids. Chemical properties. Peptides. Stereochemistry of the peptide bond. Principles of sequence analysis. Synthesis of peptides. Biological importance. Naturally occurring peptides. Important peptide hormones, analogues and peptide antibiotics.	seminar: Carboxylic acid derivatives. Lipids practice: Graded practice

8.	Structure and function of proteins. Physical and chemical properties, purification and classification of proteins. Qualitative tests. The three-dimensional structure of proteins. Protein folding. Denaturation of proteins. Biological importance of proteins: transport, contractile, structural, nutrient, storage, defense and regulation proteins. Enzymes. Mechanism of enzyme reactions.	seminar: Amino acids practice: Graded practice
9.	Classification of carbohydrates. Configuration. D-glucose, mutarotation, anomers. Cyclic structures. Chemical properties of monosaccharides: oxidation, reduction, formation of ethers and esters, formation of O- and N-glycosides.	seminar: Peptides and proteins practice: Graded practice
10.	Important monosaccharides: aldoses and ketoses and their derivatives. Structure of disaccharides. Nonreducing disaccharides: sucrose and trehalose. Reducing disaccharides: maltose, cellobiose, lactose. Oligosaccharides. Mucopolysaccharides: hyaluronic acid, chondroitin and its sulfate, dermatane sulfate and heparin.	seminar: Monosaccharides practice: Graded practice .
11.	Polysaccharides: starch, glycogen, cellulose. Structure of bacterial cell wall. Steroids. Classification of steroids. Cholesterol, cholesterolesters. Ergosterol. Vitamins D2 and D3. Bile acids and their detergent effect. Steroid hormones. Corticosteroids: mineralo- and glucocorticosteroids. Sex hormones.	seminar: Di-, oligo- and polysaccharides practice: Graded practice
12.	Structure and properties of nucleosides and nucleotides. Nucleotide coenzymes. Nucleic acids: RNA and DNA. Hydrolysis, purification and properties of nucleic acids. Sequence analysis of nucleic acids. Structure of DNA: double helix. B-DNA, A-DNA and Z-DNA. Denaturation of DNA. DNA-protein complexes.	seminar: Nucleosides, nucleotides and nucleic acids practice: Examination of some important functional groups
13.	Biological importance of nucleic acids. Classification of RNA. Molecular mechanism of protein biosynthesis, genetic code. Water-soluble vitamins and their coenzymes. Fat-soluble vitamins. Hypo- and hypervitaminosis.	seminar: Steroids and vitamins practice: Make-up laboratory practice
14.	Alkaloids, most important representatives. Antibiosis. Classification of antibiotics. Most important antibiotics. Porphin-ring containing compounds. Protoporphyrin-IX and heme. Hemoglobin and myoglobin. Intermediates of heme: biliverdin and bilirubin. Chlorophyll.	seminar: Peptides and proteins practice: Make-up laboratory practice

Note: In the 3rd, 4th, 6th, 7th, 8th, 9th and 10-11th weeks of the semester students work in rotation and conduct the following graded practices:

- Bromatometric determination of ascorbic acid content of vitamin C powder
- Quantitative determination of cholesterol by enzymatic colorimetric method
- Complexometric determination of calcium ions
- Determination of Fe^{3+} with UV/VIS spectrophotometry
- Determination of acid dissociation constant and buffer capacity by titration

- Determination of concentration of monosaccharides by polarimetry
- Photometric determination of proteins

Medical Hungarian Language I.

Semester:	2nd	**Code:**	AOK-OASZV711
Course type:	Practice	**Category:**	elective
Hours/week:	1	**Department:**	Med. Comm. and Translation
Credit:	1	**Form of Exam:**	Term mark

week **topic**

Communication-centered revision and practice of topics learnt in general Hungarian lessons with minor extensions to specialize for medical communication:

* greetings,
* numbers,
* questions regarding personal data,
* adjectives describing physical condition,
* healthy food and drink,
* body parts, possessives, common complaints,
* directions inside a building (hospital).

Medical Physics I. (+Measurements in medical physics I.)

Semester:	1st	**Code:**	AOK-OAK101/OAK102/OAK103
Course type:	Lecture/Seminar/Practice	**Category:**	compulsory
Hours/week:	1/1/1 (each 2 hrs/2 w)	**Department:**	Medical Physics
Credit:	2/-/1	**Form of Exam:**	Exam/Signature/Term Mark

	Med. Physics. I. lecture	**Med. Physics. I. practice**	**Measurements in m.p.I.**
*	Biomechanics. The physics of muscles	Biomechanics.	Anthropometric measurements. Fundamental aspects of measurements: derived quantities, measurement errors
*	Hearing.	Oscillations, waves and hearing.	Optics of the eye
*	Vision	Optics and vision.	Sound as a mechanical wave
*	Fluid mechanics: principles and medical applications	Fluid mechanics.	Blood pressure measurement principles and their application
*	Thermodynamics	Thermodynamics	Analysis of blood pressure data
*	Transport processes. Diffusion, osmosis. Biomedical signal processing and signal analysis.	Consultation	

Medical Physics II. (+Measurements in medical physics II.)

Semester:	2nd	**Code:**	AOK-OAK104/OAK105/OAK106
Course type:	Lecture/Seminar/Practice	**Category:**	compulsory
Hours/week:	2/1/1	**Department:**	Medical Physics
Credit:	3/-/1	**Form of Exam:**	Exam/Signature/Term Mark

week	**Med. Physics. I. lecture**	**Med. Physics. I. practice**	**Measurements in m.p.I.**
1.	Electricity	Electricity	Electrophysiology 1: Electromyography
2.	Magnetism and electromagnetism		
3.	Bioelectric phenomena	Magnetism, electromagnetism, bioelectricity	Electrophysiology 2: Electrocardiography
4.	Signals, signal processing and data visualisation		
5.	Quantum physical phenomena in life (and medical) sciences	The electromagnetic spectrum. Spectroscopy. Lasers	Spectroscopy
6.	Spectroscopy (optical, with an outlook to general spectroscopy). Atomic physics. Atomic spectra. Electromagnetic radiation. Luminescence		
7.	X-rays: general properties, use in diagnostics. Absorption of X-radiation. Producing X-rays, interaction with living substances	X-rays	Nuclear medicine
8.	Nuclear physics. Radioactivity. Nuclear radiation, dosimetry		
9.	Practical application of radioactive isotopes. Particle accelerators in medical practice.	Nuclear physics; radioactivity	Medical imaging techniques 1: tomography
10.	Principles of the laser. Medical applications of lasers		
11.	Medical imaging techniques: ultrasound, CT, MRI/NMR, PET, infrared diagnostics	Imaging and therapeutic methods	Medical imaging techniques 2: ultrasound
12.	Physical basis of therapeutic methods: laser-, light, radio-, heat therapy, therapeutic use of electricity		
13.	Physical methods in physiological research: microscopy (optical-, scanning-, electron-), mass spectrometry		

14. Molecular and cellular diagnostics: sedimentation, electrophoretic methods, flow cytometry

Medical Physiology I.

Semester:	3rd	**Code:**	AOK-OAK091/AOK-OAK092
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	4/4	**Department:**	Physiology
Credit:	8/-	**Form of Exam:**	Exam/Signature

Lecture	**Practice**
* Membrane physiology: membrane transport, signalling systems, cellular electrophysiology	Membrane electrophysiology (computer simulation)
* Nerve and muscle physiology: primary sensory neurons, autonomic nervous system, motor neurons, striated muscle and smooth muscle.	Electromyography (EMG)
* Blood physiology: fluid compartments, blood plasma, erythropoesis and degradation of red blood cells, ABO and Rh blood groups	Blood tests: RBC, WBC, platelet counts, differential leucocyte count, reticulocyte count, ABO/Rh blood groups, bleeding time, clotting time, prothrombin time, INR. RBC osmotic resistance, RBC sedimentation rate
* Respiratory physiology: ventilation, gas exchange, regulation	Human spirometry
* Cardiovascular physiology: the cardiac cycle, cellular electrophysiology and ECG, hemodynamics, the microcirculation, autonomic and hormonal regulation of the systemic and local circulation.	Experiments using the isolated rat heart (Langendorff's perfusion)
* Renal physiology	Electrocardiography Sphygmomanometry, determination of pulse qualities with palpation, cold pressor test

Medical Physiology II.

Semester:	4th	**Code:**	AOK-OAK093/AOK-OAK094
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	6/4	**Department:**	Physiology
Credit:	10/-	**Form of Exam:**	Comprehensive Exam/Signature

Lecture	**Practice**
* Physiology of the gastrointestinal tract	Study of cardiovascular adaptation to physical exercise
* Metabolism and nutrition.	Urine tests: physical examination, microscopic investigation of urine sediment, detection of protein, calcium, glucose, ketone bodies, bile pigments, blood and pus in the urine. Strip tests.
* Endocrine systems: hypophysis, thyroid gland, adrenal gland endocrine pancreas	GI tract: study of the saliva: pH, protein content, digestion. Study of gastric juice.

* Integrative physiology: regulation of energy metabolism, osmoregulation, volume regulation, potassium, calcium, pH homeostasis, Thermoregulation.	Endocrinology: Oral glucose tolerance test, demonstration of the antidiuretic effect of vasopressin, pregnancy tests.
* Sports physiology	Determination of motor reaction time to visual and auditory stimulation, polygraphy. Study of human motor reflexes.
* Reproductive physiology: sexual function, physiology of pregnancy, parturition, growth and development.	Sensory systems: threshold audiometry, tuning fork tests, otoscopy. Study of gustatory and olfactory perception. Study of somatosensory systems: study of different modalities, determining two point discrimination threshold, demonstration of Weber's 3 basin test. Study of vision: determination of visual acuity, visual field, critical flicker fusion frequency. Study of accommodation, pupil light reflex, light adaptation, color vision, and eye movements (postrotatory and optokinetic nystagmus
* CNS physiology: introduction, the cerebral circulation	Study of human EEG
* Sensory systems: somatosensory system, pain, vision, hearing, olfaction and taste:	Cognitive tests
* Motor systems: spinal, brainstem, cortical integration of motor functions. The vestibular system. The role of the cerebellum and the basal ganglia in motor functions.	
* Sleep/wake cycle, the EEG. Circadian rhythms.	
* Physiology of emotions, motivation, reward and punishment.	
* Physiology of learning and memory. Physiology of speech	

Medical Sociology

Semester:	3rd	**Code:**	AOK-OAK121
Course type:	Seminar	**Category:**	compulsory
Hours/week:	2	**Department:**	Public Health
Credit:	2	**Form of Exam:**	Exam

week	**topic**
1.	Description of requirements. Sociology in the medical curriculum.
2.	How to study the society?
3.	Where sociology and medicine meets.
4.	Doctors as professionals. Becoming a doctor.
5.	Doctors and patients. Our little family.
6.	Health experience. Mid-term demonstration.
7.	The society we live in.
8.	How does society affect our health?
9.	Poverty around us.
10.	Rule breakers.

11. Who is disabled? The individual or the society? The power of social stigma.
12. Research project 1. Mid-term demonstration.
13. Research project 2.
14. Consultation.

Medical Statistics

Semester:	2nd	**Code:**	AOK-OAK107/AOK-OAK108
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2	**Department:**	Medical Physics
Credit:	1/2	**Form of Exam:**	Exam/Term Mark

week	**Lecture**	**Practice**
1.	The basics of probability theory. The concept of probability, rules of probability calculus. Diagnostic tests and conditional probabilities.	The basics of probability theory. The concept of probability, rules of probability calculus. Diagnostic tests and conditional probabilities.
2.	Population, statistical sample. The distribution of categorical and continuous variables, the density function.	Population, statistical sample. The distribution of categorical and continuous variables, the density function.
3.	Density function, the normal distribution. The normal distribution. Standardisation, practical examples.	Density function, the normal distribution. The normal distribution. Standardisation, practical examples.
4.	Binomial distribution. Odds Ratio	Binomial distribution. Odds Ratio
5.	Statistical estimation, confidence interval. The standard error of mean. The use of Student's t-table	Statistical estimation, confidence interval. The standard error of mean. The use of Student's t-table
6.	Statistical inference, one-sample t-test. Significance test by confidence interval, t-statistics or p-value. Type I and II error, statistical power.	1st MTO.
7.	T-tests (one-sample, paired, Student and Welch two-sample t-test)	T-tests (one-sample, paired, Student and Welch two-sample t-test)
8.	Analysis of variance (principle of one-way ANOVA, F-test, pairwise comparisons)	Analysis of variance (principle of one-way ANOVA, F-test, pairwise comparisons)
9.	Correlation-regression analysis	Correlation-regression analysis
10.	The chi-squared test for independence (assumptions, Fisher exact test)	The chi-squared test for independence (assumptions, Fisher exact test)
11.	Nonparametric methods based on ranks (Wilcoxon-test, Mann-Whitney test, Kruskal-Wallis test)	Nonparametric methods based on ranks (Wilcoxon-test, Mann-Whitney test, Kruskal-Wallis test)
12.	Measure of agreement; 2x2 tables in epidemiology (Cohen-Kappa, relative risk)	Measure of agreement; 2x2 tables in epidemiology (Cohen-Kappa, relative risk)
13.	Survival analysis	2nd MTO
14.	Summary	Survival analysis Summary

Microbiology I.

Semester:	5th	**Code:**	AOK-OAK211/AOK-OAK212
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Medical Microbiology
Credit:	5/-	**Form of Exam:**	Exam/Signature

week	Lecture (1hr/week)	Lecture (2hr/week)	Practice
1.	Introduction to microbiology. Characterization and classification of bacteria.	Structure of bacteria. Growth and nutrition of bacteria.	Introduction to microbiology. Laboratory safety. Aseptic techniques. Wet-mount preparation.
2.	*Staphylococcus aureus*	Microbial genetics.	Preparation of bacterial smear. Simple and Gram staining.
3.	Shigella, Proteus	*Neisseria* genus, Coagulase negative staphylococci	Ziehl-Neelsen, Schaffer-Fulton and Neisser staining.
4.	Human pathogenic salmonellae	*Streptococcus* genus	Culture media. Preparation of blood agar.
5.	*E. coli. Klebsiella* genus	*Vibrio cholerae*, Campylobacter, Helicobacter	Colony morphology. Handling bacterial cultures (inoculation and plating). Methods for counting bacteria.
6.	*Brucella, Francisella*	*Listeria, Yersinia*	Biochemical diagnostic tests. Anaerobic cultivation
7.	*Burkholderia, Pseudomonas*	*Chlamydia, Mycoplasma*	*Staphylococcus, Streptococcus* AST
8.	*Corynebacterium*	*Bordetella, Haemophilus, Nocardia*	*Neisseria, E. coli, Klebsiella*
9.	*Bacillus, Legionella*	*Treponema, Leptospira, Borrelia*	*Yersinia, Samonella, Shigella, Proteus*
10.	Anaerobic bacteria I.	Anaerobic bacteria II.	*Pseudomonas, Campylobacter, Helicobacter*
11.	*Mycobacterium, Nocardia*	*Rickettsia, Coxiella, Bartonella*	*Mycobacterium, Haemophilus, Bacillus*
12.	Antimicrobial chemotherapy I.	Antimicrobial chemotherapy II.	Antimicrobial susceptibility testing
13.	HACEK	Pathogenesis of bacterial infection	*Corynebacterium, Bordetella, Listeria*

Microbiology II.

Semester:	6th	**Code:**	AOK-OAK213/AOK-OAK214
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Medical Microbiology
Credit:	5/-	**Form of Exam:**	Comprehensive Exam/Signature

week	Lecture (1hr/week)	Lecture (2hr/week)	Practice
1.	General characteristics of viruses, viral replication, antiviral therapy	Structure of viruses and classification	Laboratory safety. Methods of sterilization. Sterility testing.

2.	Herpesviridae I	Herpesviridae II	Differential diagnosis of bacteria
3.	Arenaviridae, Filoviridae	Orthomyxoviridae, Paramyxoviridae	Serological reactions I. (Precipitation, CFT)
4.	Parvoviridae, Bunyaviridae	Papilloma and polyoma viruses	Serological reactions II. Agglutination. Laboratory methods for detection of cellular immunity.
5.	Poxviridae, Rhabdoviridae	Togaviridae, adenoviridae	Clinical Microbiology
6.	Retroviridae I	HIV	Virology I. Cultivation of viruses. Signs of viral replication.
7.	Retroviridae II	Slow" viruses.	Virology II. Quantitation of viruses
8.	Flaviviridae	Hepatitis viruses	
9.	Picornaviridae	Oncoviruses	Virology III. Virus serology (HAG, ELISA, IF) Neutralization test
10.	Reoviridae, Astroviridae, Coronaviridae	Immune response against pathogens.	Bacteriophages
11.	Human pathogenic fungi I.	Human pathogenic fungi II.	Molecular methods in the diagnosis of infectious diseases.
12.	Human pathogenic protozoa I.	Human pathogenic protozoa II.	Mycology
13.	Human pathogenic helminths I.	Human pathogenic helminths II.	Parasitology
14.	Immunization I.	Immunization II.	

Microsurgery

Semester: 5th-10th
Course type: Lecture/Practice
Hours/week: 8/20 hrs total
Credit: 2/-

Code: AOK-OAKV431/AOK-OAKV432
Category: compulsory elective
Department: Surgical Research
Form of Exam: Evaluation(5)/Signature

Lecture

* General information. introduction to microsurgery (1 hrs)
* Indications of microsurgery. Clinical applications of microsurgery I. (2 hours)
* Clinical applications of microsurgery (2 hrs)
* The operating microscope (1 hr)
* Basic suturing techniques, sutures of vessels and nerves (2 hrs)

Practice

Appropriate posture at the operating microscope and the adjustment of the microscope. Movement coordination of the hands: interlacing threads under microscope (1 hr)

Tying basic microsurgical knots under macroscopic and microscopic conditions (2 hrs)

Stitching and tying knots with microsurgical instruments on rubber gloves (3 and 2 hrs)

Suture of tubes (2 x 3 hrs)

End-to-end anastomosis of rat carotid artery *ex vivo* (2 x 3 hrs)

Molecular Developmental Biology

Semester:	4th or 6th	**Code:**	OK-OAKV441
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Biochemistry
Credit:	2	**Form of Exam:**	Evaluation(5)

topic

* The molecular developmental aspect of medical biology
* General mechanisms of embryonic development
* The formation of body pattern (polarity, segment polarity, body domains) and appendix development
* Seminary (lectures 1-3)
* Cell movement and body formation in vertebrates, neural development
* The formation of the epiderm and its renewal from stem cells. Sensory epithel, airway system, gut and liver development.
* Seminary (lectures 5,6)
* Blood vesels and endothel cells, multipotent stem cells, blood cell renewal. Fibroblasts and their transformations. The movement and muscle types. The origin a nd potency of stem cells.
* Seminary (lecture 8)
* The cancer as a microevolutionary process.
* Tumor formation nand its molecular background
* Seminary (lecture 10,11)
* The molecular biology of nutrition and life span
* Seminary (lecture 13)

Molecural Medicine

Semester:	5th	**Code:**	AOK-OAKV451
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Cell Biology
Credit:	2	**Form of Exam:**	Evaluation(5)

topic

* Molecular genetic and cell biology methods in diagnosis and therapy.
* Diagnostic methods based on immunological techniques (RIA, ELISA, Western blot analysis, immunocytology, citotoxicity tests, etc.).
* Diagnostic methods beased on nucleic acid hybridization (Northern and Southern analysis, in situ hybidization, DNA chip technology, etc.).
* Diagnostic methods based on specific endonuclease activity (fragment length polymorphism, pedigree analysis, etc.).
* Gene sequencing and analysis, genomic and proteomic techniques. Cell and tissue culture methods.
* Antisense pharmacology. RNA interference/silencing. Small interfering RNAs. Molecular chaperons.
* Gene therapy, viral vectors, DNA-liposome complexes.
* Molecular markers in human disorders. Biomarkers for neurological and psychiatric disorders.

* Molecular interactions between pathogens and host.
* Stem cell therapy. Embryonal and adult stem cells. Induced pluripotent stem cells. Neuronal stem cells.
* In vitro differentiation of stem cells to the desired phenotype. Transfection of stem cells.
* Regulation of cell cycle and cell differentiation. Regulation of transcriptional and translational control of gene expression.
* Telomerase-directed molecular therapy.
* Immunotherapy. Antitumour immune responses.
* Bioinformatic and computer-assisted methods in diagnosis and therapy: functional genomics and proteomics.

Pathology I.

Semester:	5th	**Code:**	AOK-OAK221/AOK-OAK222
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/3	**Department:**	Pathology
Credit:	6/-	**Form of Exam:**	Exam/Signature

week	Lecture	Seminar (1hr/week)	Practice (2hrs/week)
1.	Role of pathology in medicine. Nomenclature. Reversible and irreversible cellular injury. Adaptations. Pathological accumulation of lipids, carbohydrates and proteins. Storage diseases. Pigments.	Cellular injury and death. Cellular adaptations of growth and differentiation. Oedema, hyperaemia, congestion. Haemorrhage.	Histopathology of cellular injury and death/Autopsy
2.	Amyloidosis. Calcification. Oedema, hyperaemia, congestion. Haemorrhage. Thrombosis. Embolism. Shock. Disseminated intravascular coagulation.	Thrombosis. Embolism. Shock. Consequences of vascular occlusion. Infarction.	Autopsy/Histopathology of cellular injury and death/
3.	Pathology of inflammation I. Pathology of inflammation II.	Pathology of inflammation	Histopathology of degeneration/Autopsy
4.	Pathology of inflammation III. Pathology of inflammation IV. Tissue repair. Wound healing.	Pathology of inflammation	Autopsy/Histopathology of vnecrosis
5.	Immunopathology I. Immunopathology II.	Immunopathology	Histopathology of necrosis/Autopsy
6.	Immunopathology III. Pathology of transplant rejection. Neoplasia I.	Immunopathology	Autopsy/Histopathology of circulation disorders
7.	Neoplasia II. Neoplasia III.	Neoplasia.	Autopsy/ Histopathology of circulation disorders/Autopsy
8.	Diseases of the blood vessels I.	Carcinogenesis.	Autopsy/Histopathology of inflammation
9.	Diseases of the blood vessels II. Diseases of the heart I.	Diseases of the blood vessels & heart	Autopsy/ Histopathology of inflammation
10.	Diseases of the heart II. Essential hypertension. Nephropathology I.	Diseases of the heart	Autopsy/Oncohistopathology
11.	Nephropathology II. Nephropathology III.	Nephropathology	Autopsy/Oncohistopathology

12.	Nephropathology IV. Diseases of the lung I.	Nephropathology	Autopsy/vascular pathology
13.	Diseases of the lung. II. Diseases of the lung III.	Diseases of the lung	Autopsy/Vascular pathology
14.	Pathology of bed rest. Pathology of alcohol abuse. Pathology of smoking. Pathology of aging. Nutritional and metabolic diseases.	Pathology of alcohol abuse. Pathology of smoking. Diabetes. Pathology of obesity.	Revision/Autopsy

Pathology II.

Semester: 6th
Code: AOK-OAK223/AOK-OAK224
Course type: Lecture/Practice
Category: compulsory
Hours/week: 2/4
Department: Pathology
Credit: 6/-
Form of Exam: Comprehensive Exam/Signature

week	Lecture	Seminar (1hr/week)	Practice (2hrs/week)
1.	Neuropathology I.	Neuropathology	Histopathology of the kidney /Autopsy
2.	Neuropathology II.		Histopathology of the kidney Nephropathology/Autopsy
3.	Neuropathology III.	Neuropathology	Histopathology of the nervous system Endocrine /Autopsy
4.	Neuromuscular pathology. Ophtalmic pathology	Neuromuscular and ophtalmic pathology	Histopathology of the nervous system /Autopsy
5.	Endocrine pathology	Endocrine pathology	Respiratory histopathology Endocrine histopathology/ Autopsy
6.	Gastrointestinal pathology.	Gastrointestinal pathology.	Histopathology of the gastrointestinal tract/Autopsy
7.	Pathology of the liver and pancreaticobiliary system	Pathology of the liver. Pathology of the biliary tract and pancreas.	Histopathology of the liver and pancreas /Autopsy
8.	Haematopathology I.	Haematopathology	Endocrine histopathology/Autopsy Histopathology of the breast/Autopsy
9.	Haematopathology II.	Haematopathology	Histopathology of haematological disordersemato
10.	Pathology of female genital system I. Breast pathology.	Pathology of female genital system	Histopathology of the female genital tract /Autopsy
11.	Pathology of female genital system II. Paediatric pathology	Pathology of female genital system. Breast pathology.	Histopahology of the breast /Autopsy
12.	Bladder and urinary tract pathology	Bladder and urinary tract pathology	Histopathology of urinary tract and male genitalia /Autopsy
13.	Pathology of male genital system.	Pathology of male genital system.	Revision/Autopsy
14.	Soft tissue and bone pathology	Pathology of soft tissue tumours. Pathology of the bones and joints.	Revision/Autopsy

Pathophysiological Aspects of Laboratory Medicine

Semester:	6th	**Code:**	AOK-OAKV411
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Laboratory Medicine
Credit:	2	**Form of Exam:**	Evaluation(5)

week	**topic**
1.	Introduction to laboratory medicine Preanalytical processes, test requesting, sampling, common preanalytical errors Analytical processes: quality control, traceability of measurements, precision, biological variation, reference range, point of care testing. Postanalytical processes: interpretation of results, sensitivity, specificity, predictive values, pre- and post-test probability, clinically significant change values, alarming or critical values, evidence based laboratory medicine
2.	Visit at the Department of Laboratory Medicine
3.	Acid-base balance disorders
4.	Laboratory diagnosis of coagulation disorders
5.	Basic coagulation tests, monitoring of anticoagulant therapy, testing for congenital and acquired thrombophilias
6.	Laboratory diagnosis of sodium and water metabolism Hypo- and hypernatremia: causes and differential diagnosis, SIADH, diabetes insipidus, laboratory diagnosis of oedema. Effect of diuretics on sodium and water balance, disorders of osmolar regulation
7.	Disorders of potassium metabolism Hypo-, and hyperkalemia: causes and differential diagnosis, diagnostic algorithms and treatment
8.	Laboratory diagnosis of liver diseases
9.	Endocrinology I. Laboratory diagnosis of disorders of endocrine regulation. Diseases of hypothalamus, hypophysis, thyroid and parathyroid glands.
10.	Endocrinology II. Laboratory diagnosis of disorders of the adrenal gland and the reproductive system
11.	Laboratory diagnosis of disorders of lipid metabolism Primary, and secondary hyperlipidemia, clinical significance of cholesterol, TG, HDL-C, LDL-C, classification of hyperlipidemias. Risks of atherosclerosis: clinical significance of ApoA, ApoB, Lp (a), homocystein, fibrinogen.
12.	Laboratory diagnosis and monitoring of diabetes mellitus
13.	Laboratory diagnosis of renal diseases Laboratory tests of glomerular and tubular functions, laboratory diagnosis of proteinuria, acute and chronic renal failure, nephrosis syndrome, differentiation of distal and proximal renal tubular acidosis
14.	Laboratory diagnosis of myocardial infarction and acut coronary syndrome Classical markers: CK, LDH isoenzymes, myoglobin. New markers: Troponin I, Troponin T, significance of point of care testing, diagnostic algorithms.

Pathophysiology I.

Semester:	5th	**Code:**	AOK-OAK201/AOK-OAK202
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Pathophysiology
Credit:	5/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice/Seminar
1.	**Inflammation I.:** Basic concepts and types of inflammation, inflammatory cells and mediators. Pathomechanism of acute inflammation. *Lecturer: Zoltán Rakonczay, Substitute lecturer: Krisztina Csabafi*	Requirements and safety instructions. Review of basic physiology and ECG.
2.	**Inflammation II.:** Pathomechanism of chronic inflammation, local and systemic symptoms/signs of inflammation, basic concepts of pain. *Lecturer: Zoltán Rakonczay, Substitute lecturer: Krisztina Csabafi*	**Inflammation I.:** Basic concepts and types of inflammation, inflammatory cells and mediators. Pathomechanism of acute inflammation. ***In the practice room: Registration and analysis of ECG.***
3.	**Immunology I.:** Hypersensitivity reactions and autoimmune diseases. *Lecturer: Zoltán Rakonczay, Substitute lecturer: Miklós Jászberényi*	***Classroom switched between groups!*** **Inflammation II.:** Pathomechanism of chronic inflammation, local and systemic symptoms/signs of inflammation, basic concepts of pain. **ECG: Premature beats.**
4.	**Immunology II.:** Primary and secondary immunodeficiencies. *Lecturer: Zoltán Rakonczay, Substitute lecturer: Miklós Jászberényi*	***Classroom switched between groups!*** **Immunology I.:** Hypersensitivity reactions and autoimmune diseases. **ECG: Arrhythmias of the sinus node.**
5.	**Endocrinology I.:** Disorders of the hypothalamus, pituitary and thyroid gland. *Lecturer: Miklós Jászberényi, Substitute lecturer: Zsolt Bagosi*	**Immunology II.:** Primary and secondary immunodeficiencies. **ECG: Preexcitation syndromes.**
6.	**Endocrinology II.:** Disorders of the parathyroid gland, adrenal cortex and medulla, male and female gonads. *Lecturer: Miklós Jászberényi, Substitute lecturer: Zsolt Bagosi*	**Endocrinology I.:** Disorders of the hypothalamus, pituitary and thyroid gland. **ECG: Atrial and AV nodal arrhythmias.**
7.	**Nutritional Diseases:** Malnutrition syndromes, starvation, vitamin deficiency, obesity. *Lecturer: Krisztina Csabafi, Substitute lecturer: Miklós Jászberényi*	**Endocrinology II.:** Disorders of the parathyroid gland, adrenal cortex and medulla, male and female gonads. **ECG: Ventricular arrhythmias.**
8.	**Diabetes mellitus, metabolic syndrome, hypoglycemia**: Pathophysiology of diabetes mellitus, prediabetes, concept of insulin resistance and metabolic syndrome, hypoglycemia. *Lecturer: Krisztina Csabafi, Substitute lecturer: Miklós Jászberényi*	**Nutritional Diseases:** Malnutrition syndromes, starvation, vitamin deficiency, obesity. **ECG: AV blocks**.
9.	**Cardiovascular system I.:** Congenital and acquired heart defects, pathophysiology of compensated and decompensated heart failure. *Lecturer: Zsolt Bagosi, Substitute lecturer: Júlia Szakács*	**Diabetes mellitus, metabolic syndrome, hypoglycemia**: Pathophysiology of diabetes mellitus, prediabetes, concept of insulin resistance and metabolic syndrome, hypoglycemia. **ECG: Bundle branch blocks.**
10.	**Cardiovascular system II.:** Volume expansion (hypervolemia), primary and secondary hypertension. *Lecturer: Zsolt Bagosi, Substitute lecturer: Júlia Szakács*	**Cardiovascular system I.:** Congenital and acquired heart defects, pathophysiology of compensated and decompensated heart failure. **ECG: Myocardial infarction.**
11.	**Hyperlipidemias, atherosclerosis:** Primary and secondary hyperlipidemias, pathophysiology of atherosclerosis. *Lecturer: Zsolt Bagosi, Substitute lecturer: Júlia Szakács*	**Cardiovascular system II.:** Volume expansion (hypervolemia), primary and secondary hypertension. **ECG: Hypertrophies**.

12.	**Cardiovascular system III.:** Angina pectoris, acute coronary syndrome, myocardial infarction, chronic heart diseases. *Lecturer: Júlia Szakács, Substitute lecturer: Zsolt Bagosi*	**Hyperlipidemias, atherosclerosis:** Primary and secondary hyperlipidemias, pathophysiology of atherosclerosis. **Electrolyte abnormalities and pulmonary embolism.**
13.	**Cardiovascular system IV.:** Volume depletion (hypovolemia, hypotension), syncope, circulatory shock. *Lecturer: Júlia Szakács, Substitute lecturer: Zsolt Bagosi*	**Cardiovascular system III.:** Angina pectoris, acute coronary syndrome, myocardial infarction, chronic heart diseases. **ECG: review**.
14.	**Thermoregulation**: Definition, types, phases and consequences of hypothermia and hyperthermia. *Lecturer: Júlia Szakács, Substitute lecturer: Zsolt Bagosi*	**Cardiovascular system IV.:** Volume depletion (hypovolemia, hypotension), syncope, circulatory shock.

Pathophysiology II.

Semester:	6th	**Code:**	AOK-OAK203/AOK-OAK204
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Pathophysiology
Credit:	5/-	**Form of Exam:**	Comprehensive Exam/Signature

week	Lecture	Practice/Seminar
1.	**Pulmonary diseases I:** Spirometry, obstructive pulmonary diseases: obstructive sleep apnea, COPD, asthma bronchiale, cystic fibrosis. *Lecturer: Zsolt Bagosi, Substitute lecturer: Júlia Szakács*	Safety regulation. **Thermoregulation. ECG review.**
2.	**Pulmonary diseases II:** Restrictive pulmonary diseases**:** pneumothorax and pleural effusion, acute pulmonary edema and embolism, pulmonary hypertension, cor pulmonale, respiratory failure. *Lecturer: Zsolt Bagosi, Substitute lecturer: Júlia Szakács*	**Pulmonary diseases I:** Dyspneas, general characterization of obstructive and restrictive pulmonary diseases, asthma bronchiale, COPD, cystic fibrosis.
3.	**Kidney diseases I.:** Disturbances of glomerular and tubular functions, nephrolithiasis. *Lecturer: Krisztina Csabafi, Substitute lecturer: Miklós Jászberényi*	**Pulmonary diseases II:** Restrictive pulmonary diseases**:** chest wall and pleura disorders, pulmonary edema, pulmonary hypertension, pulmonary embolism, hypoxia, respiratory failure.
4.	**Kidney diseases II.:** Acute and chronic renal failure. *Lecturer: Krisztina Csabafi, Substitute lecturer: Miklós Jászberényi*	**Kidney diseases I.:** Disturbances of glomerular and tubular functions, nephrolithiasis.
5.	**Disturbances of acid-base metabolism:** Respiratory acidosis and alkalosis, metabolic acidosis and alkalosis. *Lecturer: Krisztina Csabafi, Substitute lecturer: Miklós Jászberényi*	**Kidney diseases II.:** Acute and chronic renal failure.
6.	**Electrolyte disturbances:** Salt-water balance disorders, pathophysiology of potassium, calcium, phosphate, iron, and copper. *Lecturer: Miklós Jászberényi, Substitute lecturer: Krisztina Csabafi*	**Disturbances of acid-base metabolism:** Respiratory acidosis and alkalosis, metabolic acidosis and alkalosis.

7.	**CNS disorders I.:** Circulatory diseases of the CNS, cerebral edema, headache, epilepsy. *Lecturer: Miklós Jászberényi, Substitute lecturer: Krisztina Csabafi*	**Electrolyte disturbances:** Salt-water balance disorders, pathophysiology of potassium, calcium, phosphate, iron, and copper.
8.	**CNS disorders II.:** Multiple sclerosis, neurodegenerative diseases: Alzheimer's, Parkinson's and Huntington's disease, motoneuron diseases, myasthenia gravis. *Lecturer: Miklós Jászberényi, Substitute lecturer: Krisztina Csabafi*	**CNS disorders I.:** Circulatory diseases of the CNS, cerebral edema, headache, epilepsy.
9.	SPRING BREAK	SPRING BREAK
10.	**Gastrointestinal diseases I.:** Nausea, vomiting, dysphagia, GERD, abnormalities of gastric juice secretion, peptic ulcer, acute and chronic pancreatitis. *Lecturer: Professor Zoltán Rakonczay, Substitute lecturer: Zsolt Bagosi*	**CNS disorders II.:** Multiple sclerosis, neurodegenerative diseases: Alzheimer's, Parkinson's and Huntington's disease, motoneuron diseases, myasthenia gravis.
11.	**Gastrointestinal diseases II.:** Diseases of absorption**,** diarrhea, constipation: Irritable bowel syndrome, intestinal obstruction. *Lecturer: Professor Zoltán Rakonczay, Substitute lecturer: Zsolt Bagosi*	**Gastrointestinal diseases I.:** Nausea, vomiting, dysphagia, GERD, abnormalities of gastric juice secretion, peptic ulcer, acute and chronic pancreatitis.
12.	**Diseases of liver and biliary tract:** Liver dysfunction, diseases of bilirubin metabolism: jaundice, hepatic cirrhosis, liver failure, alcoholic, immune and genetic liver diseases, cholelithiasis. *Lecturer: Professor Zoltán Rakonczay, Substitute lecturer: Júlia Szakács*	**Gastrointestinal diseases II.:** Diseases of absorption**,** diarrhea, constipation: Irritable bowel syndrome, intestinal obstruction.
13.	**Pathophysiology of leukocytes II.:** Leucopenia, proliferative diseases: reactive and malignant diseases (leukemias, lymphomas), qualitative disturbances of leukocytes. *Lecturer: Krisztina Csabafi, Substitute lecturer: Júlia Szakács*	**Diseases of liver and biliary tract:** Liver dysfunction, diseases of bilirubin metabolism: jaundice, hepatic cirrhosis, liver failure, alcoholic, immune and genetic liver diseases, cholelithiasis.
14.	**Red blood cell disorders:** Anemias - ineffective erythropoesis, blood loss, hemolysis. *Lecturer: Júlia Szakács, Substitute lecturer: Krisztina Csabafi*	**Pathophysiology of leukocytes II.:** Leucopenia, proliferative diseases: reactive and malignant diseases (leukemias, lymphomas), qualitative disturbances of leukocytes.
15.	**Hemostasis:** Bleeding disorders (platelet, vascular, clotting factor disturbances), thrombosis. *Lecturer: Júlia Szakács, Substitute lecturer: Krisztina Csabafi*	**Red blood cell disorders:** Anemias - ineffective erythropoesis, blood loss, hemolysis.

Surgical Propedeutics

Semester:	6th	**Code:**	AOK-OAK231/ OAK232
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Surgery
Credit:	4/-	**Form of Exam:**	Examination/signature

week	**Lecture**	**Practice/Seminar**
1.	The origins and development of surgery	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
2.	Observation and documentation of surgical patients	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
3.	The significance and role of asepsis and antisepsis in the surgical practice	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
4.	Bleeding and haemostasis, surgical devices	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
5.	Types of wounds and the basic principles of wound healing	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
6.	**National Holiday**	
7.	Basic wounds treatment, classical and modern wound dressing materials	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
8.	Perioperative complications	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
9.	Surgical infections. Modern antibiotic treatment	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
10.	Enteral and parenteral feeding	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
11.	The role of endoscopy in surgery	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
12.	Significance of radiology in surgical diagnostics	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
13.	Surgical oncology	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.
14.	Surgical immunology	Demonstration,investigation of surgical patients. Consultation about the topics of lectures.

CLINICAL MODULE SYLLABUS

Advanced Biostatistics

Semester:	8th or 10th	**Code:**	AOK-OAKV171
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Medical Physics
Credit:	2	**Form of Exam:**	Evaluation(5)

week	Lecture (1 hr/week)	Practice (1 hr/week)
1.	Introduction: summary of basic biostatistics	The mean concepts of ogisticccs. Statistical computer systems.
2.	Nonparametric methods for two ore more dependent or independent data	The choice of the appropriate statistical method and its evaluation
3.	Multiple linear regression, linear models	Data sets with several independent variables (i.e., risc factors)
4.	Comparison of several independent group-means: two-way ANOVA	Data sets and problems when two-way ANOVA is appropriate
5.	Two-way ANOVA with interaction	Understanding the concept of interaction
6.	Comparison of several related group-menad: repeated measures ANOVA	Data sets and problems for repeated measurements ANOVA
7.	Summary	TEST I: solving two problems, main results and interpretation
8.	Diagnostic tests. Specificity, sensitivity, PPV, NPV, Accuracy	Calculation of the diagnostic measures
9.	Biostatistical methods in epidemiology, relative risk, odds ratio	Calculation of RR and OR by hand and by computer. Comparison of methods.
10.	Logistic regression: equation, use, meaning	Simple logistic regression problem soving by computer program
11.	Logistic regression: ogisticc accuracy ROC curve	Examples from the medical literature: the use of ogistic regression to find risc factors of an illness.
12.	Multivariate methods: discriminant analysis	Examples from the medical literature: decision making by computer
13.	Multivariate methods: cluster analysis	Examples from the medical literature: classification of cases or variables
14.	Summary	TEST II: solving two simple problems, main results and interpretation.

Anaesthesiology and Intensive Therapy I.

Semester:	9th	**Code:**	AOK-OAK243/ AOK-OAK244
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/1	**Department:**	Anaesthesiology & Int. Ther.
Credit:	1/-	**Form of Exam:**	Evaluation/Signature

week	topic
1.	Introducing anaesthesiology and intensive therapy
2.	Applied physiology –I. Circulation, circulation management
3.	Applied physiology – I. Breathing, oxygen therapy

4. Applied pharmacology
   I. Clinical pharmacology
   II. Anaesthesiological pharmacology
5. Anaesthesia machine, breathing systems
6. Assessment of perioperative risks, preoperative preparation
7. General anaesthesia, anaesthetics
8. Regional anaesthesia, local anesthetics
9. Airway management
10. Monitoring during anaesthesia
11. Postoperative patient care, complications, PACU
12. Postoperative acute and chronic analgesia
13. Test

Anesthesiology and Intensive Therapy II.

Semester:	10th	**Code:**	AOK-OAK245/AOK-OAK246
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/1	**Department:**	Anaesthesiology & Int. Ther.
Credit:	2/-	**Form of Exam:**	Exam/Signature

topics

* Fluid therapy, fluid resuscitation, electrolytes
* Blood gas analysis, diabetic ketoacidosis
* Acute respiratory failure, mechanical ventilation
* Acute cardiovascular diseases
* Intoxication, blood purification
* Clinical nutrition, pancreatitis, liver failure
* ALS, BLS, postresuscitation care
* Infection and infection control
* Catastrophic central nervous system disorders
* Sepsis, septic shock

Basic Biostatistics

Semester:	7th or 9th	**Code:**	AOK-OAKV161
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Medical Physics
Credit:	2	**Form of Exam:**	Evaluation(5)

week	**Lecture (1 hr/week)**	**Practice (1 hr/week)**
1.	Data definition, types of data, displaying data. Sample characteristics.	Bar chart, histogram. Calculation of the mean and standard deviation.
2.	Probability, random variables and their types, distributions.	Calculation of ogisticccs. The use of a computer program.

3.	Binomial, Poisson, uniform and normal distribution and their properties.	The use of statistical tables – standard normal distribution.
4.	Statistical estimation, confidence intervals.	Calculation of the confidence interval for a population mean. The use of the t-table.
5.	Testing hypotheses, significance. One-sample t-test.	Practice of one-sample t-test using experimental data.
6.	Paired and Independent samples t-tests.	Practice of t-tests using experimental data. The meaning of significance, p-value.
7.	Errors in hypothesis tests	TEST I.
8.	Comparing the mean of several gourps: one-way analysis of variance.	Independent t-tests and one-way ANOVA. Multiple comparisons.
9.	Relationship between continuous variables, correlation, linear regression.	Scatterplot, trend-line in EXCEL. http://www.ruf.rice.edu/~lane/stat_sim/reg_by_eye
10.	Relationship between categorical variables: the chi-square test for independence	Evaluation of a 2x2 table by hand calculation and by computer
11.	The use of 2x2 tables in diagnostic tests. The chi-square-test for goodness of fit.	Calculation of sensutitvity, specificity, positive and negative predictive value.
12.	Nonparametric methods.	Statistical tests on ranks.
13.	Summary	TEST II.
14.	Examples from the literature	Practical questions of applied biostatistics.

Cardiac Electrophysiology as a Basic Property of Cardiac Function

Semester:	8th or 10th	**Code:**	AOK-OAKV581/OAKV582
Course type:	Lecture/Practice	**Category:**	compulsory elective
Hours/week:	1/1	**Department:**	Pharmacology
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	**topic of Lecture and Practice**
1.	Introduction.
2.	Basic principles of electrophysiology, the impulse propagation in the heart I.
3.	Basic principles of electrophysiology, the impulse propagation in the heart II.
4.	The action potential of myocytes and the ionic channels determining the action potential I.
5.	The action potential of myocytes and the ionic channels determining the action potential II.
6.	Methods and techniques in cardiac electrophysiology.
7.	Electro-mechanical coupling in the heart I.
8.	Genetic background of ion-channel disturbances in the heart.
9.	Electro-mechanical coupling in the heart II.
10.	The mechanism of developing cardiac arrhythmias
11.	Electrophysiological changes after the disturbances in blood supply to the myocardium.
12.	Experimental methods and clinical relevance to investigate cardiac arrhythmias.
13.	Investigational techniques in cardiac cellular electrophysiology
14.	Practical and consultation

Child and Adolescent Psychiatry, Mentalhygiene

Semester:	8th or 10th	**Code:**	AOK-OAKV331
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Child Psychiatry
Credit:	2	**Form of Exam:**	Evaluation(5)

week	topic
1.	Introduction to child and adolescent psychiatry
2.	Assessment, diagnosis and formulation in child psychiatry
3.	Psychological assessment
4.	Neurodevelopmental disorders I: Intellectual disability and specific learning disorders
5.	Neurodevelopmental disorders II: Attention deficit-Hyperactivity disorder, Tic disorder, Tourette disorder
6.	Neurodevelopmental disorders III: Communication disorders, Pervasive developmental disorder
7.	Anxiety disorders I (Separation anxiety, Specific phobia, Social anxiety disorder, GAD)
8.	Anxiety disorders II (Agoraphobia, Panic disorder, Selective mutism, OCD, PTSD, BDD)
9.	Mood disorders (Depressive disorder, Bipolar disorder), Suicidal behavior, Non-suicidal self-injury
10.	Schizophrenia spectrum disorders
11.	Disruptive, impulse control and conduct disorders
12.	Eating disorders (Anorexia nervosa, Bulimia nervosa)
13.	Elimination disorders (Enuresis, encopresis)
14.	Psychoactive substance use and addictive disorder

Clinical Immunology

Semester:	10th	**Code:**	AOK-OAKV381
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Dermatology
Credit:	2	**Form of Exam:**	Evaluation(5)

week	topic
1.	The structure and the functions of the immune system. The biological significance of the self recognition.
2.	Methods for clinical immunological investigations.
3.	Immune-mediated tissue damage. The role of cytokines.
4.	Immunology of allergic diseases.
5.	Autoimmunity - Health and disease. The autoimmune diseases.
6.	Immunhaematology.
7.	Connective tissue disorders and joint diseases.
8.	Organ specific autoimmune diseases.

9. Detection of histocompatibility antigens and their pathogenetic significance. Transplantation immunology. Reproductive immunology.
10. Immundeficiencies. The immunology of HIV infection.
11. Tumor immunology.
12. Neuroimmunology.
13. Immune manipulation.

Clinical Oncology

Semester:	8th	**Code:**	AOK-OAK351
Course type:	Lecture	**Category:**	compulsory
Hours/week:	2	**Department:**	Oncology
Credit:	2	**Form of Exam:**	Exam

topic

* Cancer etiology, epidemiology. Tumor prevention
* The basics of Radiotherapy
* The importance of pathology and diagnostic imaging in oncology; AJC/UICC TNM system
* Practical aspects of Radiotherapy
* Medical therapies: chemotherapy, endocrine therapy, biological therapies
* Supportive, palliative therapy and the holistic approach; psychooncology
* Breast cancer and gynecological malignancies
* The complex therapy of head and neck, oesophagus and gastric cancers
* The complex therapy of liver, pancreas and colorectal tumors
  Genitourinary malignancies
  Lung cancer and mesenchymal tumors
* Central nervous system, childhood and skin malignancies
* Multidisciplinary team-work
* EXAM

Dermatology

Semester:	9th or 10th	**Code:**	AOK-OAK281/AOK-OAK282
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/3	**Department:**	Dermatology
Credit:	4/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	Introduction. The anatomy and physiology of the skin. Types of skin lesions.	Examination of patients with dermatological diseases. Case presentations.
2.	Basic immunpathologic reactions. Urticaria. Drug allergy.	Primary and secondary lesions. Case presentations.
3.	Atopic dermatitis. Contact der-matitis and other eczematous reactions. Viral diseases.	Special tools and techniques in Dermatology (Wood-lights, diascopy, dermatoscopy) Case presentations.

4.	Bacterial diseases with cutan involvement. Fungal diseases with cutaneous involvement.	Special tests in Dermatology I.In vitro and in vivo (skin) tests in allergic disorders. Case presentations.
5.	Tuberculosis of the skin. Sexually transmitted diseases. Syphilis. Gonorrhoea.	Special tests in Dermatology II. Diagnosis of infectious diseases. Case presentations.
6.	AIDS. Scabies, pediculosis. Tropical skin diseases.	Special tests in Dermatology. Diagnosis and treatment of STD. Case presentations.
7.	Psoriasis. Papulosquamosus diseases. Thermally injured skin.	Special tests in Dermatology III. Diagnosis of autoimmune diseases. Case presentations.
8.	Vesiculobullosus diseases. Acne, rosacea, perioral dermatitis.	Skin biopsy, histological examinations in Dermatology. Case presentations.
9.	Disorders of collagen and tissue. Vasculitis, purpuric conditions.	Topical therapy in Dermatology. Case presentations.
10.	Cutaneous manifestations in metabolic disorders. Benign malign tumours of the skin.	Physical therapies in Dermatology I. Surgical excision, currettage, electrodessication, cryotherapy, radiotherapy. Case presentations.
11.	Tumours of mesodermal origin. Melanoma malignum. Differential diagnosis of pigmented lesions.	Physical therapies in Dermatology II. Phototherapy, lasertherapy. Case presentations.
12.	Disorders of the vasculature. Granulomas. Disorders with abnormal keratinization. The skin in systemic disease.	Physical therapies of venous and lymphatic insufficienties. Case presentations.
13.	Disorders of the hair and nails. UV-induced dermatoses. Laser therapy in dermatology.	Systemic therapy in Dermatology. Case presentations.
14.	Local therapy in dermatology. Systemic therapy in dermatology. Dermatosurgery.	Case presentations and discussions.

Doctor-Patient Communication

Semester:	7th or 8th	**Code:**	AOK-OAK401
Course type:	Seminar	**Category:**	compulsory
Hours/week:	2	**Department:**	Behavioural Sciences
Credit:	-	**Form of Exam:**	Signature

The aim of the subject:

* Students attain the skills needed for doctor-patient consultation and for selecting from the appropriate consultation models.
* By the end of the course students will be aware of the importance of doctor-patient communication and its critical points.
* They should acquire the ethical principles of doctor-patient communication and they should be able to integrate them into their consultation behaviour. Students should know the ethical and communication methods of commitment to providing medical information.
* They should be able to carry out a 10-minute doctor-patient consultation, and afterwards to analyse and evaluate their performance from the video recording at a group meeting. They should be able to elaborate a medical case.

English and Hungarian Terminology of Doctor–Patient Communication

Semester:	7th or 8th	**Code:**	AOK-OASZV181
Course type:	Practice	**Category:**	elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Evaluation (5)

week	**Topic:**
1.	Introduction, placement test (for research purposes not part of the evaluation) for both groups.
2.	Basic vocabulary: names of body parts, common diseases, fields of specialty, specialists, medical documents in Hungarian and in English.
3.	Taking history ("SOCRATES") relevant expressions with special regard to ways of introduction, greetings in Hungarian and in English. Revision of Hungarian question words.
4.	Complaints of the patient. Vocabulary related to signs, symptoms especially pain. Revision of related adjectives in Hungarian and in English.
5.	Polite forms of conversation, signposting, eliciting information in Hungarian and in English. Cultural differences in the way of asking questions.
6.	Vocabulary of previous diseases – past medical history, names of surgical interventions. Revision of the past tense in Hungarian.
7.	Vocabulary of family history (familial relationships, hereditary diseases, common diseases in Hungarian and in English). Revision of the possessive case.
8.	Vocabulary of social history. Intercultural differences in doctor-patient conversation. Revision of Hungarian conjugation. Common suffixes in medical English.
9.	Vocabulary of referrals. Explaining examinations, results – explaining causal relationship. Future tenses in Hungarian and in English.
10.	Terminology of physical examinations. Giving instructions in both languages. Imperative case and its alternative („tessék + főnévi igenév"). Linguistic devices for being polite in both languages.
11.	Names of medications – related terminology. Instructions about dosing (mikor, hányszor, mennyit, meddig) in both languages. Terminology of allergies. Linguistic devices for expressing possibility.
12.	Discussing the diagnosis with the patient and related terminology. Lay vs. medical terms. Linguistic methods for emphasis. Revision of conditionals in both languages.
13.	Special communication situations: bad news, aggressive patients. Communication with the help of interpreters. Linguistic devices for expressing empathy. ways of arguing for and against.
14.	Assessing the semester. Output test. Oral presentation: role-playing a doctor-patient (33.3% of the final grade).

Forensic Medicine I.

Semester:	9th	**Code:**	AOK-OAK331/AOK-OAK332
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2	**Department:**	Forensic Medicine
Credit:	3/-	**Form of Exam:**	Exam/ Signature

	Lecture (2hrs/every 2nd week)	**Practice**
*	Introduction to criminal and civil law	Autopsy (3 occasions)
*	Recommendation on autopsy rules	How to fill in a death certificate?
*	Changes after death (determination of postmortem interval)	Changes after death
*	Classification of injuries I. (blunt force, sharp and pointed object trauma)	Medical report of injuries
*	Classification of injuries II. (shot wounds, explosives, heat and cold, electrocution)	DNA – Biologial sample collection
*	DNA in forensic medicine	Duties of the doctor – rights of the patiens
*	Alcohol in forensic medicine (metabolism, detection, related crimes)	Toxicology - Alcohol analysis, sample collection
*		Histology (vital signs)
*		Poisoning (agricultural chemicals, alcaloids, corrosives, alcohols)
*		Suicide
*		Case reports

Forensic Medicine II.

Semester:	10th	**Code:**	AOK-OAK333/AOK-OAK334
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2	**Department:**	Forensic Medicine
Credit:	3/-	**Form of Exam:**	Exam/ Signature

	Lecture (2hrs/every 2nd week)	**Practice**
*	Medical malpractice	Autopsy (3)
*	Forensic aspects of illegal drug use	Medical malpractice case presentation
*	Identification	Sudden death in adults
*	Battered child, infanticide, criminal abortion, sudden infant death	Identification
*	Forensic psychiatry	Asphyxia, drowning
*	Forensic psychology	Sexual offences (adults)
*	Transportation medicine, traffic accident	Toxicology – the detection of illegal drugs
*		Facial and dental injuries DNA in forensic medicine (paternity testing)
*		Prison health care
*		Healing and residual conditions of injuries
*		DNA profiling
*		Assessment of disability. Fitness to drive.

Foundations of Evidence Based Medicine

Semester:	8th or 10th	**Code:**	AOK-OAKV181
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Public Health
Credit:	2	**Form of Exam:**	Evaluation(5)

topic

* Introduction of the course. Study requirements.
* Evidence-based medicine/healthcare: concepts, steps in practicing EBM.
* Asking structured questions (PICO), classification of clinical questions. The hierarchy of evidence.
* Observational epidemiological studies: ecological, cross-sectional, case-control, cohort studies.
* Interventional studies, clinical trials (RCT).
* Translational medicine: from basic research to clinical practice.
* Search the evidence – theoretical and practical knowledge.
* Critical appraisal process – theoretical and practical knowledge.
* Grading quality of evidence and strength of recommendations, GRADE approach.
* Development of evidence-based practice guidelines.
* Implementation of practice guidelines in clinical practice and prevention.
* Health economic aspects of evidence-based medicine.
* Reporting scientific results – requirements of scientific papers, presentations.

How to use microbiology laboratory results to diagnose and treat infectious diseases; interactive; problem-based case discussions

Semester:	9th or 10th	**Code:**	AOK-OAKV291
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Clinical Microbiology
Credit:	2	**Form of Exam:**	Evaluation(5)

week	topic
1.	Principles of microbiological sample collection and handling. Procedures for the transport of microbiological specimens. Cases will be discussed where these procedures have a great influence on the outcome of laboratory investigations.
2.	Upper and lower respiratory tract infections. Community-acquired and nosocomial pneumonia cases will be discussed in details. How to choose adequate antibiotic therapy? The value of microbiological tests in these cases will be discussed.
3.	Upper and lower urinary tract infections. Differences in antibiotic resistances of pathogens causing urinary tract infections. Pitfalls in laboratory tests.
4.	Differences in gastrointestinal diseases caused by bacteria, viruses and parasites. Possibilities in the laboratory diagnosis and treatment of these infections.
5.	Infection or colonization. How to distinguish them using microbiological laboratory tests? Difficulties in the interpretation of laboratory results and findings.
6.	Nosocomial infections, nosocomial epidemics, and laboratory methods which are suitable to follow the spread of nosocomial pathogens in a hospital environment. Cases involved in nosocomial epidemics will be discussed, together with measures taken to stop the spread of nosocomial pathogens.
7.	Neuroinfections and joint infections. Laboratory methods, including molecular techniques to set up the diagnoses of central nervous system infections.
8.	Infections of immunocompromised patients, special aspects of infections in case of patients with haematologic malignancy. Problems in the laboratory diagnosis of these infections.
9.	Sexually-transmitted diseases and their consequences, classic and newly recognized sexually-transmitted infections. Diagnostic possibilities in case of STIs.
10.	Infections caused by anaerobic bacteria, diagnostic problems and anaerobic culture possibilities.
11.	Sepsis and its consequences, and blood culture techniques in the diagnosis of sepsis. Treatment possibilities in case of bloodstream infections. The spread of antibiotic resistance worldwide, development of resistance to certain antibiotics during therapy.
12.	General principles of specimen collection and handling in case of viral infections. Emerging and re-emerging viral infections. Cases will be discussed where these procedures have a great influence on the outcome of laboratory investigations.
13.	How to use molecular biological methods in routine clinical microbiological diagnostics? The value of these methods? Cases will be discussed where molecular techniques can help to set up the diagnosis.
14.	General principles of detection and identification of infections caused by parasites.

Hungarian Language VII.

Semester:	7th	**Code:**	AOK-OAK607
Course type:	Practice	**Category:**	compulsory
Hours/week:	3	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Term Mark

week	topic
1.	Revision
2-3.	Revision (Internal medicine) + Field practice (Internal medicine)
4-8.	Pulmonology. The structure of the respiratory system. The most frequent abnormal conditions and diseases in Pulmonology. Revising the vocabulary of breathing problems, coughing and sputum. Practicing doctor–patient communication: role-play, history taking and examination of patients with respiratory problems. Giving advice to patients concerning medication. Reading simple Hungarian case histories taken from the field of Pulmonology.
8.	Oral exam – history taking (Pulmonology)
9.	Field practice (Pulmonology)
10-12.	Orthopedics. The structure of the skeletal system. Revising the name of bones and joints. The most frequent abnormal conditions and diseases in Orthopedics. Practicing doctor–patient situations: role-play, history taking in Orthopedics. Briefing English case histories taken from the field of Orthopedics in Hungarian.
13.	Field practice (Orthopedics)
14.	Oral test – case summaries (Internal medicine, Pulmonology, Orthopedics)

Hungarian Language VIII.

Semester:	8th	**Code:**	AOK-OAK608
Course type:	Practice	**Category:**	compulsory
Hours/week:	3	**Department:**	Med. Comm. and Translation
Credit:	-	**Form of Exam:**	Comprehensive Exam

week	topic
1-4.	Gynecology. The external and internal female genital organs. The most frequent complaints and diseases in the field of gynecology. Practicing basic doctor–patient situations: role-play, history taking in Gynecology. Asking the patient about her menstruation cycle and history. Revision of Wh-questions. Obstetrics. Taking history concerning previous pregnancies. Deliveries and abortions. Complaints during pregnancy.
5.	Field practice.
6-8.	Urology. Urology. The most common conditions and diseases in the field of Urology: cystitis, kidney stones, pyelonephritis. Practicing doctor–patient situations: role-play, history taking in Urology. Briefing English case histories taken from the field of Urology in Hungarian.
9.	Oral exam
10-14.	General revision. Practicing doctor–patient dialogues in all covered medical fields. Revision. Practicing doctor–patient situations that can emerge at medical and surgical departments. Interviewing and examining patients, sending them for further investigations, giving advice on diet, life style, and medication.

Infectology - Infectious Diseases (Internal Medicine IV.)

Semester:	9th	**Code:**	AOK-OAK275/AOK-OAK276
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Internal Medicine
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Introduction. History, principles, classification of infectious diseases. Antibiotic prophylaxis, antibiotic policy	History, principles, distribution of infectious diseases. Epidemiological problems. Pathogenetic agents.
2.	Tropical diseases	Pathophysiology and diagnosis of infectious diseases.
3.	Infection control	Infections of the respiratory organs.
4.	Exanthematous infectious diseases	Infections of the gastrointestinal tract
5.	Gastrointestinal and abdominal infections	Neuroinfections
6.	Sexually transmitted, gynecologial and urinary tract infections	Hepatitis
7.	Infections of the respiratory organs	AIDS
8.	Antropozoonoses, Bioterrorism	Sepsis
9.	Joint and bone infections. Fungal infections.	Prevention of infectious diseases
10.	Cardiovascular infections. Infections and their prophylaxis during interventions.	Exanthematous infectious diseases
11.	Neuroinfections. Skin and soft tissue infections.	Antropozoonoses (Lyssa, Brucellosis, Tularemia etc.)
12.	Infections in immunosuppression. AIDS. Vaccination.	Antimicrobal therapy
13.	Sepsis, septic shock	Nosocomial infections
14.	Antimicrobal therapy, antibiotic policy	Tropical diseases

Internal Medicine II.

Semester:	7th	**Code:**	AOK-OAK271/AOK-OAK272
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	4/2	**Department:**	Internal Medicine
Credit:	5/-	**Form of Exam:**	Exam/Signature

	Lecture	**Practice**
*	Echocardiography	Methods in echocardiography, reading an echocardiographic record.
*	Infective endocarditis. Tumors of the heart	Taking the case history the physical examination.
*	Hypertension in cardiologic aspect. Aortic dissection	Performing percussion, auscultation.
*	Aortic stenosis +Aortic incompetence.	Performing percussion, auscultation.
*	Mitral stenosis + Mitral incompetence	Performing percussion, auscultation.
*	Tricuspid stenosis and incompetence. Combined valvular heart disease. Prosthetic valve.	Performing percussion, auscultation.

*	Rheumatic fever. Myocardtitis and pericarditis	The physical findings of rheumatic fever and inflammatory diseases.
*	Adult congenital heart diseases	Performing percussion, auscultation.
*	Hypertrophic and dilatative cardiomyopathy: diagnosis and treatment	Performing percussion, auscultation. The physical findings of cardiomyopathies.
*	Electrocardiography	Reading ECG records.
*	Cardiac arrhythmias	Reading ECG records learning modern antiarrhythmic treatment and procedures.
*	Ischemic heart diseases	Non invasive and invasive technics in the diagnosis of ischemic heart disease.
*	Invasive diagnostic and theraputic methods in cardiology	Non invasive and invasive technics in the diagnosis of ischemic heart disease.
*	Restrictive and obliterative cardiomyopathy. Chronic heart failure	Performing percussion, auscultation. The physical findings of cardiomyopathies and chronic heart failure.
*	Pulmonary embolism. Pulmonary hypertension.	Physical findings of pulmonary embolism and hypertension.
*	Cardiac rehabilitation	Possibilities in rehabilitation program.
*	Special cardiac conditions: women, athletics, elders. Cardiac risk stratification in non cardiac surgery	Non invasive and invasive technics in cardiology.
*	Acute heart failure. Failure of periferial circulation	The signs and treatment of heart failure and periferial circulation disturbances.
*	Revascularization in cardiac surgery	Visiting at operation theatre.
*	Basic hematology	Evaluation of laboratory data
*	Anemias	Inspection of patients with anaemia
*	Anemias. Hemolytic anemia	Microscopic evaluation of red cells morphology
*	Pancytopenias (Myelodysplastic	Bone marrow smears examination, physical signs of pancytopenic patients
*	syndromes. Aplastic anemia)	
*	Acut leukemia	Examination of blood and bone marrow smears with acute leukemias
*	Stem cell transplantation	Discussion of indications for stem cell transplantation
*	Myeloproliferative diseases	Palpation of spleens and enlarged livers
*	Malignant lymphomas.	Lymp nodes palpation
*	(Classification, Hodgkin disease)	
*	Aggressive lymphomas	Examination of blood and bone marrow smears with lymphomatic infiltration
*	Malignant lymphomas.	X ray consultation, physical examinations
*	(Indolent lymphomas, multiple myeloma)	
*	Coagulation abnormalities. (Thrombophilias)	Bleeding manifestations

Internal Medicine III.

Semester:	8th	**Code:**	AOK-OAK273/AOK-OAK274
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	5/2	**Department:**	Internal Medicine
Credit:	5/-	**Form of Exam:**	Exam/Signature

	Lecture	**Practice**
*	Investigative methods	Problem oriented evaluation of the symptoms of patients with esophageal disorders
*	Nephrosis syndrome, non proliferative glomerulonephritises Proliferative glomerulonephritises	Practical aspects of the functional evaluation of patients with esophageal disorders (esophageal manometry, 24 h pH-metry, evaluation of the biliary reflux)
*	Hypertension I: etiology and pathomechanism Renal failure (acute, chronic, dialysis treatment)	Upper gastrointestinal endoscopy
*	Hypertension II: therapy and complications Tubulointerstitial nephritis (bacterial, non bacterial), polycystic kidney disease	Symptomatic evaluation of the liver patient. Problem oriented laboratory investigation of the liver patient.
*	Renal involvement in systemic diseases, kidnes neoplasias Pregnancy and nephropathy	Symptoms of biliary obstruction, investigative methods for patients with biliary obstruction (symptoms, biochemistry, ultrasonography, ERCP)
*	Hyperlipidaemia Diabetes mellitus	Symptoms of patients with acute pancreatitis Diagnostic work up of patients with acute pancreatitis
*	Diabetes mellitus (acute and chronic complications) Diabetes mellitus (therapy) Introduction to endocrinology. Endocrine regulation. Anterior pituitary	Diagnostic work up of patients with chronic pancreatitis and pancreatic cancer Diagnostic work up of patients with CU and Crohn's disease.
*	Neurohypophysis	
*	Thyroid: developmental errors, inflammation, normofunctional goiter, tumors	Early identification of patients with colorectal cancer. Diagnostic methods.
*	Thyrotoxicosis	
*	Hypothyroidism	Symptoms of malabsorption, maldigestion, Diagnostic workup: Hydrogen, c13 urea and starch breath tests
*	Spring Holiday	Practical aspects of the diagnosis and therapy of patients with diabetes mellitus; the patient education.
*	Parathyroid disorders	
*	Adrenal cortex: hypadrenia	Practical aspects of insulin therapy. Treatment of dyslipoproteinemias
*	Adrenal cortex: Cushing and Conn	
*	Obesity	Physical examination of patients with rheumatoid diseases
*	Hypogonadism	
*	Multiple endocrine neoplasias, paraneoplastic endocrinopathies,	
*	polyglandular autoimmune syndrome, Carcinoid syndrome	
*	Adrenal cortex: adrenogenital syndrome	
*	Osteoporosis	
*	Consultation	

Internal Medicine V.

Semester:	10th	**Code:**	AOK-OAK277/AOK-OAK278
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/16 hrs total	**Department:**	Internal Medicine
Credit:	3/-	**Form of Exam:**	Evaluation(5)/Signature

	Lecture	**Practice**
*	Degenerative diseases of the spine, gout	Medical thinking, general principles of differential diagnostics
*	Spondylarthritis	Differential diagnostics of diarrhea and constipation
*	Rheumatoid arthritis	Differential diagnostics in patients with abdominal pain
*	Systemic lupus erythematodes, antiphospholipid sy., principles of immunsuppressive therapy	Differential diagnostics of ascites
*	Fever, ion abnormalities	Differential diagnostics of occult and manifest gastrointestinal bleedings
*	Sjögren's syndrome, myositises, systemic sclerosis (scleroderma)	Differential diagnostics of jaundice
*	Edema, hematuria, proteinuria	Differential diagnostics of the gastrointestinal motility disorders
*	Cyanosis, dyspnea	differential diagnostics of hypertension
*	Chest pain, syncope	differential diagnostics of chest pain and syncope
*	Spring Holiday	differential diagnostics of edema, cyanosis, dyspnoe
*	Anaemia, lymphadenomegaly, hematologic disorders	differential diagnostics of anaemias and lymph node enlargement
*	Abdominal pain, acute abdomen	differential diagnostics in patients with renal diseases
*	National holiday	selected differential diagnostic problems, consultation
*	Jaundice, ascites	selected differential diagnostic problems, consultation
*	Diarrhoea, constipation, GI motility disorders	

Introduction to Aviation and Space Medicine

Semester:	7th or 9th	**Code:**	AOK-OAKV131
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Aviation and Space Medicine
Credit:	2	**Form of Exam:**	Evaluation(5)

week	**topic**
1.	The history, subject, position and role of aviation and space medicine in medical sciences.
2.	The effect of the dynamic factors of aviation on the pilot’s body. The pilot’s life-saving equipment.

3. The effects of noise and vibration on the human body during flight.
4. The basics of aerodynamics. The composition, layers and main physical properties of the atmosphere.
5. The medical qualification of pilots and parachuters. The ergonomical characters of the cockpit of an aircraft.
6. The effects of short- and long-range flights from the passenger's point of view.
7. Medical Evacuation by Air (MEDEVAC) Transportation of Sick and Wounded Patients by Air.
8. The pilot's lifestyle, nutrition and sports.
9. The adverse effects of changes in baropressure on the human body. The effect of reduction in partial oxygen pressure on the human body, its importance in aviation. Pressure oxygen breathing. The pressurized cabin.
10. The psychophysiological characters of the pilot's personality. The fatigue and overload of aircrews
11. Decompression sickness.
12. Spatial alertness in flight, flight illusions. Motion sickness in aviation.
13. The physiological effects of space flight on the human body. The basic principles of astronaut selection and training.

Laboratory Diagnostics: Use of Laboratory Tests in Practice

Semester:	8th or 10th	**Code:**	AOK-OAKV401
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Laboratory Medicine
Credit:	2	**Form of Exam:**	Evaluation(5)

week **topic**

1. Introduction to laboratory diagnostics
2. Visit at the Department of Laboratory Medicine
3. Acid-base balance disorders: diagnosis and treatment of acute cases, combined acid-base disorders, discussion of complex cases
4. Disorders of water, sodium and potassium balance: diagnosis and treatment of osmoregulatory defects and hypo-, and hyperkalaemia and -natraemia
5. Bone and calcium metabolism: Causes of hypo- and hypercalcaemia, diagnostic algorithms
6. Laboratory diagnosis of renal diseases: Managing patients with acute and chronic renal failure, diagnosis of impaired glomerular and tubular function. Differential diagnosis of proteinuria
7. Laboratory diagnosis of diabetes mellitus: diagnosis and treatment of acute cases, problems with the laboratory monitoring of long-term outcomes
8. Cardiovascular risk assessment and laboratory management of patients with cardiovascular diseases: case discussions – Evidence-based practice of AMI, acute coronary syndrome and congestive heart failure. Differential diagnosis of acute chest pain and dyspnoea.
9. The role of laboratory in oncology: tumor markers and their use in practice
10. Case presentations in endocrinology – a case oriented approach: Functional tests and diagnostic algorithms in the investigation of endocrine abnormalities
11. Laboratory diagnosis of coagulation disorders: Cases on the diagnosis of thrombo-embolic events (DVT, PE, congenital thrombophilias, lupus anticoagulant and anti-phospholipid syndrome) and bleeding disorders

12. Haematology cases: differential diagnosis of anaemia, diagnosis of monoclonal gammopathies, use of flow cytometry in haemato-oncology
13. Therapeutic drug monitoring: Role of TDM in patients treated with lithium, digoxin, antibiotics and immunosuppressive medications.
14. Toxicology: Cases on drug overdose and ingestion of toxic substances.

Medical history-taking in Hungarian I.

Semester:	9th	**Code:**	AOK-OASZV701
Course type:	Practice	**Category:**	elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Evaluation (5)

week **topic**

1. Revision: the structural format of history-taking, an overview
2. **Neurology**: the most frequent neurological diseases and their associated complaints
3. Performing a neurological physical examination; a brief description of the most frequently used investigations in neurology
4. Taking a focused history in neurology: falls, loss of consciousness
5. Taking a focused history in neurology: different types of headaches
6. Taking a focused history in neurology: weakness, numbness/paresthesia
7. Taking a focused history in neurology: dizziness, hearing loss, speech disorders
8. Oral exam: history taking and physical examination in neurology
9. **Pediatrics**: a set of unique challenges; the components of pediatric history
10. Developmental milestones in children; the ways of inquiring about these milestones
11. Taking a focused history in pediatrics: vomiting and diarrhea
12. Taking a focused history in pediatrics: cough, dyspnea, failure to thrive, behavioral abnormalities
13. Taking a focused history in pediatrics: accidents, convulsions
14. Oral exam: case summaries in neurology and pediatrics - the students' oral case reports based on their own clinical practice

Medical history-taking in Hungarian II.

Semester:	10th	**Code:**	AOK-OASZV702
Course type:	Practice	**Category:**	elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Evaluation (5)

week **topic**

1. **Dermatology**: the skin and its appendages; the most typical dermatological diseases and their symptoms
2. Approaching skin lesions: duration, location, provoking or relieving factors, associated symptoms, underlying malignancies, etc.
3. Taking a focused history in dermatology: an itchy rash
4. Taking a focused history in dermatology: a nevus that has enlarged
5. **Ophthalmology**: vision, visual disorders, the most frequent diseases of the eyes
6. Eye injuries, the patients' complaints, ophthalmological examinations
7. Taking a focused history in ophthalmology: red and itchy eye, cataract, glaucoma

8. Oral exam: history taking in dermatology an ophthalmology
9. **ENT**: the most frequent ENT diseases and their associated complaints
10. Performing ENT examinations, giving instructions to patients
11. Taking a focused history in ENT: otalgia and hearing loss
12. Taking a focused history in ENT: hoarseness and sore throat
13. Selected case summaries in the clinical fields covered in the semester
14. Oral exam: case summaries in the medical fields covered in the semester.
    The students' oral case reports based on their own clinical practice

Medical Psychology I.

Semester:	7th	**Code:**	AOK-OAK421/AOK-OAK422
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1 (for 5 weeks)/ 2 (for 10 weeks)	**Department:**	Behavioural Sciences
Credit:	2/-	**Form of Exam:**	Signature/Signature

	Lecture	**Practice**
*	Medical psychology and border areas	Adherence in type patient–physician relationship
*	Communication Strategies e.g. suggestive communication	CLASS model, bio-psycho-social model, system theory
*	Health promotion, Health protective behavior	Active listening skills and Acknowledgement of Emotion strategies
*	Symptoms and illness: perception (pain, placebo) / Health and illness related beliefs / The psychological process of becoming ill	Suggestive Communication
*	Stress and Health / Chronic illness, death, dying	Motivational interview I-II.
*		Building competence through video analyses
*		SKILL lab practice I-II.

Medical Psychology II.

Semester:	8th	**Code:**	AOK-OAK431/AOK-OAK432
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/3 (for 5 weeks)	**Department:**	Behavioural Sciences
Credit:	-/1	**Form of Exam:**	Signature/Term Mark

week	**Lecture**	**Practice**
1.	Psychosomatic Perspective, Consciousness, Psycho-neuro-immunology	Review: CLASS-model, motivational interview
2.	Personality disorders: Attachment Theory / The role of personality in the changes of health status	Psychosomatic patient / Medically unexplained symptoms (MUS)
3.	Anxiety Disorders	Frustrated patient
4.	Psychological Interventions I-II.	Crisis intervention
5.	Counseling	Group project I-II.

Medical Rehabilitation and Physical Medicine

Semester:	10th	**Code:**	AOK-OAKV501
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Medical Rehabilitation
Credit:	2	**Form of Exam:**	Evaluation(5)

The aim of the course:

The course represent the professional knowledge to the students dealing with people living with disability or threatened with disability. Its part is the survey of the person's threat level, the development of an appropriate and constructive disease awareness to construct the patients' motivation for successful coping with their situation. The course aims such a cooperation between the patient and the health care system that is based on self-care referring to the improvement of the patient's knowledge or setting up his physical training or diet. The course completes the traditional clinical medicine with a very important and overshadowed viewpoint. It contributes to the highest level of integration of most persons and a long term preservation of this integration level.

The output requirements of the course:

a) Knowledge:

to know

- the definition of rehabilitation.
- aims and tasks of rehabilitation on individual clinical fields.
- the tasks of individual participants in the rehabilitation process.
- the difference between the acute and chronic system.
- the efficiency of self-care.
- the consequence of disadvantage originated in the disease.
- The student is well informed in the academic literature and is able to integrate with other fields of medicine.

Abilities:

- The evaluation of the patient's functional status.
- Patient's motivation.
- The integration of the patient's relatives in the process of rehabilitation.
- The achievement of life-style change to reduce the risk factors.
- The student is able to phrase his opinion independently according to the professional and academic expectations.

b) Attitudes:

- To accept the patient in the role of the primary and informed provider.
- To accept the patient's right to refuse health care supply.
- To accept the organizations supporting self-care.

c) Autonomy and responsability:

- Critical consciousness is characteristic in questions connected to his profession.
- He uses the acquired knowledge conscientiously and he never abuses it in any situation.
- He decides conscientiously about the functions delegated to the patient.
- To prepare the patient to decide about his situation.
- He guarantee the handling of situation from the side of the health supplying not belonging to the patient's competence.

topic

* Introduction. The bases of prevention and rehabilitation.
* The role of the patient in the process of rehabilitation.
* Motivation interview. Patient education in practice.
* Rehabilitation of cardiac patients.
* Pulmonary rehabilitation.

* Use of medical aids in rehabilitation.
* The role of physiotherapy in rehabilitation.
* Rehabilitation of patients with spinal cord injury.
* Pediatric rehabilitation.
* Rehabilitation of psychiatric patients.
* Rehabilitation for patients with reumatic diseases.

Methods supporting learning outcomes:
Lectures and slides of lectures.
Notes and video lectures are planned.
Checking of the expected learning outcomes:
Written colloquium. In case of absence, oral exam.
The criterion of fulfillment of the exam is the right answer of minimum 50% of the question.
Students participating on every lecture have right to have half grade advantage.

Neurology I.

Semester:	9th	**Code:**	AOK-OAK381/AOK-OAK382
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2	**Department:**	Neurology
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	a. Introduction. History of neurology. b. Physical examination. Neurological status.	Neurological investigation related to the lecture
2.	a. The organization of the sensory system. b. Pain.	Neurological investigation related to the lecture
3.	The organization of the motor system.	Neurological investigation related to the lecture
4.	Spinal cord. Neurological localization.	Neurological investigation related to the lecture
5.	Brainstem. Neurological localization.	Neurological investigation related to the lecture
6.	Cerebellum. Neurological localization.	Neurological investigation related to the lecture
7.	Cerebral cortex. Frontal lobe. Neurological localization.	Neurological investigation related to the lecture
8.	Temporal lobe. Neurological localization.	Neurological investigation related to the lecture
9.	a./ Parietal and occipital lobes. Neurological localization. b./ Vegetative nervous system.	Neurological investigation related to the lecture
10.	Cerebrospinal fluid. Diagnostic methods.	Neurological investigation related to the lecture
11.	Neurovascular system. Neurological localization.	Neurological investigation related to the lecture
12.	Extrapyramidal system. Neurologicallocalization.	Neurological investigation related to the lecture
13.	a./ Electrical activity and examination of muscles and nerves b./ Modern neuroradiological diagnostic methods.	Neurological investigation related to the lecture
14.	Review of basic neurology knowledge	Neurological investigation related to the lecture

Neurology II.

Semester:	10th	**Code:**	AOK-OAK383/AOK-OAK384
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Neurology
Credit:	-/3	**Form of Exam:**	Signature/Term Mark

week	Lecture	Practice
1.	Cerebrovascular disorders I.	Neurological investigation related to the lecture
2.	Cerebrovascular disorders II.	
3.	Epilepsies. Epilepsies. Sleep disturbances.	Neurological investigation related to the lecture
4.	Muscle and motoneuron disorders.	Neurological investigation related to the lecture
5.	Neuroinflammatory disorders.	
6.	Multiple sclerosis	
7.	Extrapyramidal disorders I.	
8.	Extrapyramidal disorders II.	Neurological investigation related to the lecture
9.	Intensive neurology. Tumors of the central nervous system.	Neurological investigation related to the lecture
10.	Neurorehabilitation.	
11.	Diagnosis and treatment of headaches.	Neurological investigation related to the lecture
12.	Pathomechanism of neurodegenerative disorders.	
13.	Dementias. Neurology in general medical practice. Novel therapies in neurology.	Neurological investigation related to the lecture

Neurosurgery

Semester:	10th	**Code:**	AOK-OAK321/AOK-OAK322
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Neurosurgery
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	Lecture (2 hrs/every 2nd week)	Practice (2 hrs/every 2nd week)
1.	Introduction to neurosurgery, Emergency neurosurgical cases I.: Traumatic Brain Injury	Material of the lecture in practice.
2.	Diagnostic procedures in neurosurgery, Emergency neurosurgical cases II: Head I (intracranial mass lesions, infection)	Material of the lecture in practice.
3.	Emergency neurosurgical cases III: Head III (cerebrovascular), Spine (trauma, degenerative, infection)	Material of the lecture in practice.
4.	Cerebrovascular diseases	Material of the lecture in practice.

5.	Neurosurgical treatment of central nervous system tumors	Material of the lecture in practice.
6.	Spine surgery: traumatic injuries, degenerative disorders, infections	Material of the lecture in practice.
7.	Other: Endovascular treatment, movement disorder and pain surgery, pediatric neurosurgery and hydrocephalus	Material of the lecture in practice.

Nuclear Medicine

Semester:	7th or 9th	**Code:**	AOK-OAKV471
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	1	**Department:**	Nuclear Medicine
Credit:	1	**Form of Exam:**	Evaluation (5)

week	topic
1.	Nuclear medicine physics History Basic principles of nuclear physics and radiation biology
2.	Instrumentation of nuclear medicine Radiation detector systems Gamma camera Single photon emission computed tomography Positron emission computed tomography (PET), PET/CT
3.	Radiopharmacology Tracer principle Production of radionuclides Radiopharmaceutical chemistry
4.	Nuclear medicine in disorders of bones and joints Bone scintigraphy Joint scintigraphy Bone marrow scintigraphy Complementary investigations of the bones and joints
5.	Nuclear cardiology I. Myocardial perfusion studies Curriculum 2017/2018 Faculty of Medicine – Clinical Module
6.	Nuclear cardiology II. Radionuclide ventriculography (RNV) at rest RNV during stress ECG-gated RNV with SPECT Miscellaneous nuclear cardiological methods
7.	Nuclear medicine investigations of the respiratory system Lung perfusion investigation Lung ventilation investigations Diagnosis of pulmonary embolism
8.	Nuclear medicine in gastroenterology Hepatobiliary scintigraphy Differential diagnostics of focal liver lesions Scintigraphy of the salivary glands Oesophagus passage study Gastric motility study Gastrointestinal bleeding site detected by radioisotopes Meckel's diverticulum detection Investigations of intestinal inflammations Investigations in malabsorption (Schilling test)
9.	In vitro nuclear medicine assays with radionuclides Principles of immunoassays Clinical applications of immunoassays
10.	Endocrinological aspects of nuclear medicine Thyroid scintigraphy Parathyroid scintigraphy Adrenal scintigraphy Neuroendocrine tumor imaging techniques
11.	Nuclear medicine in urogenital disorders Static renal scintigraphy Dynamic studies Vesicoureteric reflux study Evaluation of renal transplants Scrotum scintigraphy Radionuclide hysterosalpingography * Nuclear medicine of the central nervous system (CNS) Brain angioscintigraphy and blood-brain barrier scintigraphy Cerebrospinal fluid scintigraphy Brain SPECT studies Neuroreceptor SPECT Brain tumors evaluated by SPECT Brain PET studies
12.	Nuclear oncology Tumour markers Tumouraffin radiopharmaceuticals and their applications Oncological aspects of bone marrow scintigraphy Scintigraphy of the lymphatic system, sentinel lymph node detection Oncological aspects of PET, PET/CT and SPECT/CT studies
13.	Nuclear medicine in therapy Thyroid disorders treated with radioisotopes Radiosynovectomy Palliative treatment of bone metastases Possibilities in radioimmunotherapy Neuroendocrine tumours treated with 131-I-MIBG 32-P treatment in polycythaemia vera
14.	Nuclear medicine physics History Basic principles of nuclear physics and radiation biology

Obstetrics and Gynaecology I.

Semester:	7th	**Code:**	AOK-OAK501/AOK-OAK502
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Obstetrics and Gynaecology
Credit:	4/-	**Form of Exam:**	Exam/Signature

Lecture	**Practice**
* Introduction. Concepts of obstetrics and gynaecology and its role in modern medicine. Historical review.	Prenatal care. Obstetrical history, physical examination.
* Development and function of the placenta. Development of the fetus.	Pregnancy tests
* Endocrinology of pregnancy.	Induction of labour
* Obstetrical anatomy. Diagnosis of pregnancy.	Ultrasonography
* Genital and extragenital changes during pregnancy.	Follow up examinations during pregnancy
* Signs of the fetal life. The mature placenta, umbilical cord, membranes and amniotic fluid.	Genetics, CVS, AC, Cordocentesis
* Intrauterine position of the fetus.	Preparation for labour
* Antenatal care and examinations.	CTG, OCT, AS, X ray
* Normal mechanism of labour.	Normal delivery
* Patient care during labour.	Induced abortion. Surgical aspects.
* Pharmacokinetics in pregnancy. Registration of the uterine activity.	Forceps delivery, vacuum extraction
* Diseases of the trophoblast.	Breech presentation
* Monitoring of the fetus and placenta.	Postpartal hemorrhage
* Physiology of the uterus.	Caesarean section
* Obstetrical ultrasonography.	
* The newborn. Care and management. The puerperium.	
* Abortion.	
* Ectopic pregnancy.	
* EPH-gestosis.	
* Breech presentation and delivery.	
* Multiple pregnancy.	
* Premature labour.	
* Management of delivery. Induction of labour.	
* Intrauterine death. Postmaturity. Dysmaturity.	
* Alternative delivery methods.	

Obstetrics and Gynaecology II.

Semester:	8th	**Code:**	AOK-OAK503/AOK-OAK504
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	3/2	**Department:**	Obstetrics and Gynaecology
Credit:	4/-	**Form of Exam:**	Evaluation(5)/Signature

Lecture

* Uterine rupture, postpartal haemorrhage, abnormal puerperium.
* Causes of 3rd trimester bleeding (premature separation of the placenta, DIC, plac. praevia).
* Dysmaturity. Hyperemesis.
* Erythroblastosis fetalis.
* Dystocia (difficult labor) pelvic dystocia due to uterine dysfunction, dystocia of fetal origin, dystocia of placental origigin.
* Infectious diseases and pregnancy.
* Respiratory, renal, neurologic, endocrine and metabolic diseases.
* Benign tumors of the uterus.
* Diseases of the cervix. Cancer screening.
* Pelvic inflammatory diseases. Diseases of the Fallopian tube.
* Medical complications during pregnancy. (Heart, haematologic, gastrointestinal diseases.)
* Genetic disorders.
* Birth control. Contraception.
* Abnormalities of the menstruation.
* Climacteric.
* Ethical aspects of Obstetrics-Gynaecology.
* Endometriosis.
* Assisted fertilization in the female.
* Gynaecological endoscopy.
* Infertility of the female.
* Benign ovarian tumors.
* Malignant ovarian tumors.
* Adolescent gynaecology.
* Infertility of the male.
* Diseases of the vulva and vagina.

Practice

Gynaecological history taking, physical and pelvic examinations.

Screening methods for cervical cancer: cytology.

Screening methods for cervical cancer: colposcopy.

Curettage, cervical biopsy, electrocauterisation, conisation.

Female infertility, diagnostic procedures.

Infertility study of the male partner.

Labor procedures of infertility.

Conception control.

Endoscopy.

Abdominal gynaecological operations.

Vaginal surgical procedures.

Adolescent gynaecology.

Physiotherapy in gynaecology.

Radio- and chemotherapy.

Psychosexual diseases.

Ophthalmology

Semester:	9th or 10th	**Code:**	AOK-OAK491/AOK-OAK492
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Ophthalmology
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	General introduction	VA (visual acuity)
2.	Ocular anatomy and physiology	Pupil reactions/eye movments/color saturation
3.	Lids, lacrimal system	VF (visual fields)
4.	Glaucoma	Instruments (ophthalmoscope, slit lamp, tonometer etc)
5.	Conjunctiva	Emergencies (CRAO, palsies, injuries, A-AION)
6.	Cornea	Surgeries
7.	Lens	Photos
8.	Sclera and orbit	Ocular injuries and acute red eye
9.	Uvea	Contact lens
10.	Retina	Lasers (argon, YAG, diode, excimer, femto)
11.	Retinal detachment and vitreous	Pediatric and eye movements
12.	Neuro-ophthalmology	OCT and angio
13.	Eye and systemic diseases	Ultrasound
14.	Pediatric	Consultations

Oral and Maxillofacial Surgery, Stomatology

Semester:	9th	**Code:**	AOK-OAK251/AOK-OAK252
Course type:	Lecture/Seminar	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Oral and Maxillofacial Surgery
Credit:	2/-	**Form of Exam:**	Exam/Signature

topics:

- Cleft lip and palate surgery
- Anatomy of the oral cavity. General principles of dentistry. Pediatric dentistry.
- Principles of trauma management. Conservative treatment of facial trauma. Mandibular fracture
- Midface, frontal skull base fractures
- Etiology and diagnosis of oral cancer
- Medication related osteonecrosis of the jaws
- Dental and facial prostheses
- Implantology. Preprosthetic surgery.
- Medical consequences of oral and dental diseases
- Dental trauma
- Orthognathic surgery
- Distraction osteogenesis
- Trismus
- Temporomandibular joint surgery
- Oral symptoms of health conditions
- Periodontal disease and general consequences
- Surgical management of oral cancer
- Salivary gland diseases

- Virtual planning in maxillofacial and dental surgery
- Dentoalveolar surgery. Cysts.
- Orthodontics
- Reconstruction of orofacial defects
- Differential diagnosis of facial pain
- General medicine in perioperative oral and maxillofacial care
- Odontogenic infections
- Emergencies in oral and maxillofacial surgery.
- Craniofacial disorders
- Plastic and cosmetic surgery in the maxillofacial region

Orthopedics

Semester:	7th	**Code:**	AOK-OAK391/AOK-OAK392
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Orthopedics
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	Field of orthopaedics, history. Diagnosis and treatment of orthopaedic disorders.	The course of the examination of the patients with locomotor system diseases. Diagnostic means. X-ray demonstration. Case report.
2.	Disorders of the spine in childhood. Scoliosis.	Examination of the neck and cervical spine. Disorders of the neck and cervical spine. X-ray demonstration. Case report.
3.	General affections of the skeleton	Examination of the trunk and spine. Disorders of the trunk and spine. X-ray demonstration. Case report.
4.	Congenital deformities and disabilities	Examination of the scoliosis. Diagnostic means. X-ray demonstration. Case report.
5.	Disorders of the foot (congenital club foot, pes planovalgus)	Examination of the shoulder and elbow. Disorders of the shoulder and elbow. X-ray demonstration. Case report.
6.	Arthritis, osteomyelitis, tuberculous arthritis	Examination of the forearm, wrist and the hand. Disorders of the forearm, wrist and the hand. X-ray demonstration. Case report.
7.	Bone tumors	Examination of the hip regio. Disorders of the hip. Messuring the length of the limbs. X-ray demonstration. Case report.
8.	Infections and degenerative disorders of the spine. Spondylolysis, spondylolisthesis.	Examination of the osteoarthritis of the hip and of the knee. X-ray demonstration. Case report.
9.	Disorders of the neck and upper limbs	Examination of the knee. Disorders of the knee. X-ray demonstration. Case report.
10.	Congenital dislocation and dysplasia of the hip	Examination of the leg, ankle and foot. Disorders of the leg, ankle and foot. X-ray demonstration. Case report.
11.	Other hip disorders in childhood (Perthes disease, slipped upper femoral epiphysis. Transient arthritis of the hip.)	Infections of the bone. Arthritis. Bone tumors. X-ray demonstration. Case report.
12.	Osteoarthritis of the hip. Idiopathical necrosis capitis femoris.	Osteoarthrosis. General affections of the skeleton. (Neurological disorders). X-ray demonstration. Case report.

13. Disorders of the knee.

14. Neuromuscular diseases, general affections of the skeleton

Oto-Rhino-Laryngology

Semester:	9th or 10th	**Code:**	AOK-OAK301/AOK-OAK302
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/3	**Department:**	Oto-Rhino-Laryngology
Credit:	4/-	**Form of Exam:**	Exam/Signature

	Lecture	**Practice**
*	Oto-rhino-laryngology in medicine.	Examination equipment in oto-rhino-laryngology.
*	History of oto-rhino-laryngology.	
*	Anatomy and physiology of the ear.	Practice in use of forehead mirror and ear speculum.
*	Diseases of the external ear and their treatment.	Examination of the external auditoy meatus and eardrum.
*	Acute inflammation of the middle ear.	Practice in cleaning the external meatus. Diseases of the external meatus. Ear drops. Examination of the Eustachian tube.
*	Complications of acute otitis media.	Demonstration of eardrum perforations and various ear diseases.
*	Non-suppurative diseases of the middle ear.	X-ray, CT, MR pictures of the ear.
*	Chronic otitis media. Complications of chronic otitis media.	Examination of hearing by means of tuning forks.
*	Reconstruction of the hearing mechanism.	Measurement of hearing loss. The usual method of recording hearing by audiometer. Demonstration of various types of pure-tone audiograms. Hearing aids.
*	Anatomy of the inner ear. The vestibular and cochlear system.	Demonstrations of otoneurological examinations.
*	Examination of hearing and the vestibular system.	Clinical examination of the nose and nasal cavity. Practice in using nasal speculum. Posterior rhinoscopy. Demonstration of diseases of nasal cavity. Treatment of nasal injuries.
*	Diseases of the inner ear: toxic damage to the ear, inflammatory and vascular lesions of the inner ear. Acoustic trauma. Meniere's disease.	Haemorrhage from the nose. Treatment of epistaxis.. Demonstration of Bellocq pack.
*	Diseases of the inner ear: acoustic neuroma, temporal bone fractures.	Treatment of sinusitis. Nasal drops. X-ray, CT, MR pictures of nasal sinuses. Demonstration of puncture of the maxillary sinus. Differential diagnosis of headache.
*	Anatomy of the nose and nasal sinuses.	Examination of the mouth and pharynx. Demonstration of pharyngeal diseases.
*	Diseases of the external nose and the nasal cavity.	Demonstration of tumors in the larynx and hypopharynx.
*	Sinusitis. Treatment and complications. Fractures of the sinuses.	Examination of the larynx. Demonstration of laryngeal diseases. Anaesthesia in oto-rhino-laryngology.

* Haemorrhage from the nose. Tumors of the nose and paranasal sinuses.	Demonstration of patients after tracheostomy. Cleaning of tracheostomy tube.
* Anatomy of the pharynx. Diseases of the nasopharynx.	Demonstration of esophagoscopes and bronchoscopes. The method of introducing the naso-esophageal nutrition tube. Differential diagnosis of neck nodes in practice.
* Adenoid hyperplasia. Benign and malignant nasopharyngeal tumors.	
* Acute and chronic inflammatory diseases of the pharynx.	
* Acute and chronic tonsillitis. Peritonsillar abscess and complications.	
* Indications of tonsillectomy. Tumors of mesopharynx.	
* Functional anatomy of the larynx. Acute and chronic diseases of the larynx.	
* Injuries of the larynx. Paralysis of the larynx.	
* Tumors of the hypopharynx and the larynx.	
* Classifications of malignant laryngeal tumors.	
* Treatment of laryngeal tumors.	
* Diseases of the oesophagus and the inferior respiratory tract.	
* Differential diagnosis of neck nodes.	

Pediatrics I.

Semester:	9th	**Code:**	AOK-OAK311/OAK312/OAK313
Course type:	Lecture/Practice/Seminar	**Category:**	compulsory
Hours/week:	1/2/2	**Department:**	Pediatrics
Credit:	-/-/5	**Form of Exam:**	Signature/Signature/Term Mark

week	**Lecture**	**Practice/Seminar**
1.	Paediatric History Taking and Physical Examination Age- and developmentally-appropriate history How to perform a paediatric examination (to include respiratory, cardiovascular, gastrointestinal, central and peripheral nervous system, musculoskeletal, skin, eyes, ears/nose/throat) Newborn examination	pBLS – Paediatric Basic Life Support Prioritise the care of a sick child - Use a systematic approach (ABCDE) to the care of a sick child - Demonstrate basic airway management (including appropriate airway positioning, bag-valve mask ventilation) - Deliver age-appropriate cardio-pulmonary resuscitation (pBLS) - Recognise the need for help and identify how to obtain it
2.	General Paediatrics – Growth Normal growth in childhood (newborn-adolescence) Measurement; Puberty; Plot and interpret a growth chart; Main physiological changes from birth to adulthood	Skills/Procedures Common practical procedures in children (venepuncture, urinary catheterisation, lumbar punture)

3.	General Paediatrics – Development Developmental milestones of children 0-5 years ; Developmental screening and assessement; Age- and developmentally-appropriate history and examination	General growth and development Normal growth in childhood (newborn-adolescence) Plot and interpret a growth chart Main physiological changes from birth to adulthood Developmental milestones of children 0-5 years Developmental examination in a child under 5 years
4.	General Paediatrics – Nutrition Normal feeding and eating behaviour from birth to adulthood *(Breastfeeding, Formula feeding, Principals of normal nutrition of childhood)*	Nutrition, Feeding Infant feeding Failure to thrive Malnutrition Obesity
5.	Laboratory and Microbology in Paediatrics Laboratory and microbiological investigations in Paediatric conditions Common (hematological and biochemistry) laboratory tests in children – normal values	Fluid balance Dehydration Fluid therapy in emergency care - Types of intravenous fluids, Calculate intravenous fluids (bolus and maintenance) etc. Shock management
6.	Acid base and electrolyte disorders Common acid base disorders and common causes in Paediatrics Interpret blood gases in children – normal values	Recognition of a sick child, Paediatric Emergencies Assessment of a seriously ill child Respiratory failure Sepsis Anaphylaxis ALTE
7.	Pharmacology/Drugs in Paediatrics Prescription by weight, age and body surface area in children Differences in drug metabolism between infants, children and adults Special routes of drug administration in children e.g. inhalation with babyhaler, suppository etc. Calculate (with given doses): Common analgesics, Common antibiotics, Oral rehydration solution, Common asthma medications (eg. beta-2 agonists, steroids), Common emergency drugs (eg. adrenaline for anaphylaxis)	Preventive paediatrics - Screening and Immunisation Role of prevention in Paediatric population Vaccinations, immunisation programme in Hungary Neonatal screening
8.	Antibiotic therapy in Paediatrics Common paediatric bacterial infections, approporiate antibiotic use	Infectious diseases Common viral infections in Pediatrics Common bacterial infections in Pediatrics Neuroinfections Management of a febrile infant TBC

9.	Paediatric Radiology Ordering Radiology Investigations in Paediatrics, Radiation, Radiation Free Imaging, Neuroimaging/Imaging of Musculoskeletal/GIT/Urogenital Tract, Interventions	Paediatric Surgery Congenital malformations of the gastrointestinal tract (Esophageal atresia, TOF, Duodenal atresia, Intestinal atresia, Anus atresia, Malrotation, Hirschprung disease) Acute abdomen (Appendicitis, Intussusception, Volvulus) Congenital diaphragmatic hernia Acute scrotum, Inguinal hernia, Hydrocele, Undescended testis Surgical management of congenital urinary tract malformations (PUJ obstruction, VUR, hypospadias)
10.	Newborn, infant Physiologic characteristics of the newborn, term and preterm infants Maternal diseases/drugs affecting the newborn (diabetes, gestational diabetes, lifestyle (alcohol, drugs, smoking), hypertension, chronic conditions)	Paediatric Emergencies (Trauma/Accident) Paediatric accidental injuries *(Burn injury primary care, Airway and GI foreign body management, Road Accidents)*
11.	Toxicology Poisoning (General principles of toxicology)	Neonatology 1. (Neonatal Care in Delivery Room/Resuscitation) Adaptation to extrauterine life; Delivery room care Routine examination of the newborn infant Neonatal Resuscitation
12.	New Trends in Paediatrics	Child Protection Risk factors for child maltreatment Types of child abuse and neglect Symptoms, signs and red flags of child maltreatment Procedure for raising concerns about child maltreatment
13.	Ethics in Paediatrics, Communication	Child and Adolescent Psychiatry
14.	Child and Adolescent Psychiatry	

Pediatrics II.

Semester:	10th	**Code:**	AOK-OAK314/AOK-OAK315
Course type:	Practice/Seminar	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Pediatrics
Credit:	-/4	**Form of Exam:**	Signature/Term Mark

week	**topic**
1.	Neonatology 2. Respiratory diseases of the newborn *(TTN, MAS, infection (sepsis, pneumonia), RDS, congenital malformations)* Jaundice - physiologic *(breast milk, breastfeeding)*, pathologic *(AB0/Rh incomp)* Neonatal Sepsis *(Early and late onset)*, Congenital infections Neonatal convulsion *(Metabolic, Congenital malformation, Bleeding/Ischaemia, Infection, Hypoxic ischemic encephalopathy)*

Summary of problems with preterm babies *(RDS, Intracranial hemorrhage, Necrotizing enterocolitis, Persistent ductus arteriosus, Bronchopulmonary dysplasia, Retinopathy of prematurity (ROP))*

2. Gastroenterology
Problems of infant feeding *(Gastro-oesophageal reflux disease, Pyloric stenosis)*
Malabsorption/malnutrition syndromes *(Inflammatory bowel disease Food adverse reactions);* Constipation
3. Respiratory disorders 1
Upper respiratory tract infection *(pharyngitis, laryngitis, epiglottitis, otitis media)*
Communitiy acquired bacterial pneumonia in children; Cystic fibrosis
4. Respiratory disorders 2
Pulmonary physiology, pulmonary function tests
Wheeze *(Viral induced wheeze, obstructive bronchitis, asthma bronchiale, bronchiolitis)*
Acute therapy of respiratory distress *(O_2 delivery, non-invasive, invasive ventillation)*
5. Diabetes in childhood
Diabetes mellitus; Diabetic ketoacidosis, treatment; Evaluation of hypoglycemia in childhood
6. Endocrinology
Endocrine emergencies; Thyroid disorders; Evaluation of growth retardation, short stature
Disorders of sexual differentiation and puberty (precocious/delayed)
7. Nephrology
Congenital urinary tract malformations; Urinary tract infection in children
Nephrosis syndrome, Nephritis syndrome; Acute kidney injury; Hypertension; Enuresis
8. Cardiology
Symptoms and differential diagnosis of congenital heart defects; Hypertension
Arrhythmias *(SVT, Bradycardia, VT, VF);* Cardiogenic shock *(Diagnosis, Differential diagnosis, Therapy)*
9. Hematology
Anaemia in paediatrics
Bleeding disorders, coagulopathies in children, Immune thrombocytopenic purpura (ITP)
Acute leukemia in pediatrics (ALL), lymphoma
10. Oncology
Most common solid tumors in Peadiatrics (CNS tumours, Lymphoma, Neuroblastoma, Wilms tumour); Principles of treatment of malignancies, Side effects of treatment, Supportive care
11. Neurology
Differential diagnosis of a floppy infant *(HIE, Haemorrhage, SMA, Myopathies, Metabolic)*
Hydrocephalus
Headache in childhood *(Migrain, Secondary headaches)*
Seizures in childhood *(Febrile seizure, Epilepsy, Acute symptomatic seizure)*
Demyelinating of the central nervous system *(Guillain-Barré syndrome)*
12. Metabolic Disorders, Genetics
General rules of inborn errors of metabolism; Newborn screening of inherited metabolic disorders
Chromosomal abnormalities (Down, Klienefelter, Turner syndrome)
13. Immunology
Classification, presentation and investigation of immun defects
14. Case based discussions/Consultation

Pharmacology and pharmacotherapy II.

Semester:	7th	**Code:**	AOK-OAK291/AOK-OAK292
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	4/2	**Department:**	Pharmacology
Credit:	2/-	**Form of Exam:**	Comprehensive Exam/ Signature

week	**Lecture**	**Practice**
1.	Psychostimulants. Anorectics. Hallucinogenics. Anxiolytics. Sedatohypnotics.	Introduction.

2.	Pharmacology of general anaesthesia. Opioid analgetics.	Contemporary drug abuse.
3.	Antidepressants. Antiparkinson drugs. Central muscle relaxants.	To recapitulate: General anaesthesia.
4.	Antipsychotic drugs. Antiepileptic drugs.	Pharmacotherapy of pain.
5.	Antiarrhythmic drugs.	To recapitulate: CNS
6.	Antianginal drugs.	MTO: CNS.
7.	Diuretic drugs. Pharmacotherapy of hyperlipoproteinemias.	Therapy of AMI.
8.	Cardiotonics.	Computer lab - CVS
9.	Antihypertensive drugs. Drugs acting on the blood.	Therapy of migraine.
10.	Stroke (prevention and treatment). Diabetes mellitus. Hyperthyreosis.	Therapy of anaemias.
11.	Hormones. Vitamines.	MTO: CVS.
12.	Drugs that influence the GIT. Toxicology I.	Discussion - CVS.
13.	Toxicology II.	Principles of immunopharmacology.
14.	Toxicology of doping.	Prepare for the final exam.

Physics in Radiotherapy

Semester:	8th	**Code:**	AOK-OASZV121
Course type:	Practice	**Category:**	elective
Hours/week:	1	**Department:**	Oncology
Credit:	1	**Form of Exam:**	Evaluation(5)

topic

* Basic Radiation Physics, electron interactions, photon interactions
* Radiation dosimeters, Ionization chambers, Film dosimetry, Semiconductors
* Treatment machines for external beam radiotherapy, LINACs, Calibration photon and electron beams
* Commissioning of linear accelerators, quality assurance and quality control in RT
* Clinical treatment planning in external photon beam radiotherapy
* The role of imaging procedures in radiation therapy
* Special procedures and techniques in radiotherapy, conformal radiotherapy. Intensity-modulated radiation therpy, Image-guided radiotherapy

Psychiatry I.

Semester:	9th	**Code:**	AOK-OAK441/AOK-OAK442
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Psychiatry
Credit:	-/2	**Form of Exam:**	Signature/Term Mark

week	Lecture	Practice
1.	Introduction to Psychiatry	Psychiatric patient examination related to the lecture
2.	Psychiatric Interview, Psychopathology I.	Psychiatric patient examination related to the lecture
3.	PsychopathologyII.	Psychiatric patient examination related to the lecture
4.	Psychopathology III. and Nosology	Psychiatric patient examination related to the lecture
5.	Disorders of Attachment	Psychiatric patient examination related to the lecture
6.	Anxiety Disorders	Psychiatric patient examination related to the lecture
7.	Mood Disorders	Psychiatric patient examination related to the lecture
8.	Bipolar Affective Disorders	Psychiatric patient examination related to the lecture
9.	Suicide	Psychiatric patient examination related to the lecture
10.	Sleep Related Disorders	Psychiatric patient examination related to the lecture
11.	Somatoform Disorders	Psychiatric patient examination related to the lecture
12.	Forensic and Ethical Issues in Psychiatry	Psychiatric patient examination related to the lecture
13.	Obsessive and Compulsive and Related Disorders	Psychiatric patient examination related to the lecture

Psychiatry II.

Semester:	10th	**Code:**	AOK-OAK443/AOK-OAK444
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/1	**Department:**	Psychiatry
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	Neurocognitive Disorders	Neurobiological Basis of Psychotherapy
2.	Behavioral and Psychological Symptoms of Dementia	First Interview, Psychotherapy Contract, Common Effective Factors of Psychotherapy
3.	Delirium Syndromes	Humanistic – Patient Centered Therapy
4.	Alcohol Use Disorders	Cognitive Behavioral Therapy
5.	Substance Related and Addictive Disorders	Psychotherapy in Addictology
6.	Schizophrenia I.	Psychotherapy in Psychosis
7.	Schizophrenia II.	Opportunities of Group Therapies
8.	Trauma- and Stressor-Related Disorders	Crisis Intervention Approaches
9.	Personality Disorders I.	Expressive and Supportive Psychodynamic Therapies
10.	Personality Disorders II.	Relaxation, Symbol and Art Therapies
11.	Feeding and Eating Disorders	Hypnosis, Suggestive Communication
12.	Psychopharmacology III. Pharmacotherapy of Addictions and Mood Stabilizers	Psychopharmacology IV. Pharmacotherapy of Anxiety and Sleep-Related Disorders
13.	Non-Pharmacological Biological Therapies I.	Non-Pharmacological Biological Therapies II.

Public Health and Preventive Medicine I.

Semester:	7th	**Code:**	AOK-OAK371/AOK-OAK372
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Public Health
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	The scope and goal of preventive medicine and public health. The levels of prevention. The global health situation; priorities in global health. Measuring health status of a population; the theoretical basis of demography.	Requirements of the semester. Health determinants and prevention.
2.	Measuring health status of a population; the theoretical basis of epidemiology. Health status of high-risk populations.	Demographic indexes and their use. Measuring mortality; standardization. Analysis of statistical databases.
3.	Epidemiology of cardiovascular diseases. Epidemiology of chronic respiratory diseases.	Measuring morbidity. Epidemiological studies: ecological, cross sectional, case-control and cohort studies, interventional studies. Planning and preparation of epidemiological surveys.
4.	Epidemiology of malignant tumors. Epidemiology of metabolic and musculoskeletal diseases.	Practical aspects of the prevention of cardiovascular diseases.
5.	Epidemiology of mental disorders, suicide and accidents. Epidemiology of chronic gastrointestinal diseases.	The role of screening in the prevention of selected chronic diseases.
6-8.	Clinical practice	Clinical practice
9.	HOLIDAY	Health promotion in various settings (community, workplace, school).
10.	Nutrition in public health. Basics of nutrition. Malnutritions. Food quality and safety.	Measuring nutritional status. Dietary guidelines, healthy nutrition. The role of diet in the prevention of diet-related diseases: CVD, diabetes mellitus.
11.	Epidemiology of smoking.	The role of diet in the prevention of diet-related diseases: obesity, tumors and osteoporosis.
12.	Epidemiology of alcohol and drug consumption.	Smoking cessation guidelines for health professionals.
13.	Structure and operation of health systems.	Prevention of alcohol and drug consumption. The role of physical activity in the prevention of chronic diseases.
14.	Health and health care in the family (mother, infant, child, adolescent).	Quality improvement in health care, quality tools in PDCA cycle.

Public Health and Preventive Medicine II.

Semester:	8th	**Code:**	AOK-OAK373/AOK-OAK374
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Public Health
Credit:	3/-	**Form of Exam:**	Comprehensive Exam/Signature

week	Lecture	Practice
1.	Principles of communicable diseases epidemiology. Global burden of communicable diseases. Epidemiology of airborne diseases.	Requirements of the semester. Control of communicable diseases: sterilization, disinfection, disinsection, deratisation. Best practice for hand hygiene.
2.	Epidemiology of enteric diseases.	Control of communicable diseases: vaccination. Epidemic and pandemic preparedness.
3.	Epidemiology of hematogenic and cutaneous diseases. Epidemiology of sexually transmitted diseases.	Practical aspects of the prevention of selected airborne diseases.
4.	Epidemiology of healthcare associated infections (infection control, nosocomial surveillance). Global problem of antimicrobial resistance.	Practical aspects of the prevention of selected foodborne diseases and hepatitis infections. Parasitic infections.
5.	Epidemiology of zoonoses, transmissible spongiform encephalopathies; emerging and re-emerging diseases. The effect of climate change on the human health and environment.	Practical aspects of the prevention of tick-borne diseases, tetanus, lyssa. Case studies about healthcare associated infections.
6.	Air pollutants and their effect on human health. The quality of water/drinking water and its effect on human health I.	Prevention of outdoor and indoor air pollution and their health damaging effects.
7.	The quality of water/drinking water and its effect on human health II. Sewage, soil pollutions, waste management.	Public health responses for climate change.
8.	Environment and occupation related diseases caused by chemical exposures.	Environmental epidemiology: examining health-damaging effects of surface and drinking water pollution.
9.	Occupational health. Occupational diseases caused by physical (temperature, pressure, vibration, radiation) exposures.	Chemical safety, risk assessment. Case studies about health effects of certain chemicals.
10.	SPRING HOLIDAY	The burden of occupational morbidity and mortality. Practical aspects of occupational health.
11.	Occupational diseases caused by biological, ergonomic and psychosocial exposures. Occupational pneumoconiosis.	Health effects of workplace-related exposures: occupational hazards in health care.

Pulmonology

Semester:	7th	**Code:**	AOK-OAK451/AOK-OAK452
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2	**Department:**	Pulmonology
Credit:	2/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	The global situation of infectious diseases. Epidemiology of infectious diseases: airborne diseases I-II.	General epidemiology and basic concepts of infectious diseases. Sterilization, disinfection, disinsection, deratisation.
2.	Epidemiology of infectious diseases: enteric diseases. Foodborne diseases – microbiological risks.	Hand hygiene in the prevention of infectious diseases.
3.	Epidemiology of infectious diseases: hematogenic, cutaneous and sexually transmitted diseases. Diseases caused by parasites. Epidemiology of infectious diseases: Emerging and re-emerging diseases.	Practical aspects of vaccination.
4.	Epidemiology of infectious diseases: zoonoses. Transmissible spongiform encephalopathies. Global problem of antimicrobial resistance.	Practical aspects of the prevention of selected infectious diseases; airborne and enteric diseases. Hygiene of communal feeding.
5.	Epidemiology of health care associated infections. Air pollution, air pollutants and their effect on human health.	Practical aspects of the prevention of selected infectious diseases; hepatitis infections, tick-borne diseases.
6.	Water pollutants and their effects on human health. Sewage, soil pollutions, waste management. The effect of climate change on the human health and environment.	Practical aspects of the prevention of selected infectious diseases; tetanus, lyssa.
7.	Occupational health. Occupational safety, accident prevention. General toxicology. Chemical safety, risk assessment.	Practical aspects of infection control.
8.	Toxicology of metals, solvents, plastics, gases and agrochemicals.	Environmental epidemiology: examining health damaging effects of air pollution.
9.	Occupational diseases caused by physical (temperature, pressure, vibration, radiation) exposures.	Environmental epidemiology: examining health damaging effects of surface and drinking water pollution.
10.	Occupational diseases caused by biological, ergonomic and psychosocial exposures.	Practical aspects of occupational health. SPRING HOLIDAY
11.	SPRING HOLIDAY	Health effects of workplace-related exposures. Occupational hazards in health care. SPRING HOLIDAY

Radiology I.

Semester:	7th	**Code:**	AOK-OAK461/AOK-OAK462
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Radiology
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	Lecture	Practice
1.	Imaging diagnostics: role, development, present and future	Imaging diagnostics: role, development, present and future
2.	Conventional radiology	Conventional radiology
3.	Contrast agents	Contrast agents
4.	Ultrasound	Ultrasound
5.	Computed tomography and magnetic resonance imaging	Computed tomography and magnetic resonance imaging
6.	Interventional radiology	Interventional radiology
7.	Gastroenterology I.(esophagus, stomach, duodenum)	Gastroenterology I.
8.	Gastroenterology II. (mesenteric small bowels large intestine)	Gastroenterology II.
9.	Joints	Joints
10.	Bones	Bones
11.	Chest I. (lung)	Chest I. (lung)
12.	Chest II. (mediastinum)	Chest II. (mediastinum)
13.	Heart and peripheric vessels	Heart and peripheric vessels
14.	Head and neck	Head and neck

Radiology II.

Semester:	8th	**Code:**	AOK-OAK463/AOK-OAK464
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Radiology
Credit:	2/-	**Form of Exam:**	Exam/Signature

week	Lecture	Practice
1.	Radiology of the breasts and female reproductive system	Radiology of the breasts
2.	Radiology of the liver	Radiology of the liver
3.	Radiology of the biliary tract	Radiology of the biliary tract
4.	Radiology of the pancreas & spleen	Radiology of the pancreas & spleen
5.	Neuroradiology I. (image modalities, congenital anomalies and vascular lesions of the head)	Neuroradiology I.
6.	Neuroradiology II. (Tumours, infections, trauma of the head)	Neuroradiology II.
7.	Neuroradiology III. (Spinal diseases)	Neuroradiology III.
8.	Pediatric radiology	Pediatric radiology
9.	Radiology of the kidneys & the urinay tract	Radiology of the kidneys & the urinay tract

10.	Radiology of the retroperitoneal space	Radiology of the retroperitoneal space
11.	Radiology of the pelvis and the male reproductive organs	Radiology of the pelvis and the male reproductive organs
12.	Radiological aspects of emergency	Radiological aspects of emergency
13.	Radiological aspects of trauma	Radiological aspects of trauma

Rheumatology

Semester:	9th	**Code:**	AOK-OAKV551
Course type:	Lecture	**Category:**	compulsory
Hours/week:	2	**Department:**	Rheumatology
Credit:	2	**Form of Exam:**	Evaluation(5)

The course „Rheumatology" covers the whole spectrum of musculoskeletal diseases including the immune-mediated internal medical systemic inflammatory diseases. The aim of the course is to provide a more detailed and practical overview of various types of arthritis and systemic autoimmune diseases, in addition to the limited topics covered within the clinical immunology section of the Internal Medicine course (10th semester).
The topics are delivered in interactive, seminar-like lectures and in practicals at the Department of Rheumatology and Immunology. Special emphasis is put on „hands-on" training at bedside. The lectures are interactive, focus on live or slide-based patient presentation, and on critical thinking, decision-making and differential diagnostic thinking.
The immunological basis of the diseases, novel treatment paradigms, the principles of immunosuppressive therapy, the innovative biological therapies, and the systematic diagnostic work-up of patients with arthritis, and other immune-mediated manifestations, such as Raynaud's phenomenon, skin, renal, pulmonary, neurological, etc. involvements typical of systemic autoimmune diseases are detailed within the course „Rheumatology".

topic

* Lecture – Introduction. Systemic lupus erythematosus, antiphospholipid syndrome; László Kovács
* Practical – max. 20 students
* Lecture – Rheumatoid arthritis, spondylarthritis; Attila Balog
* Practical – max. 20 students
* Practical – max. 20 students
* Practical – max. 20 students
* Lecture - Systemic sclerosis (scleroderma), Systemic vasculitides; László Kovács
* Practical – max. 20 students
* Lecture - Sjögren's syndrome, polymyositis, dermatomyositis; Attila Kovács
* Practical – max. 20 students
* Practical – max. 20 students
* Practical – max. 20 students
* Consultation; László Kovács

Social and Health Policy

Semester:	8th or 10th	**Code:**	AOK-OAKV591
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Public Health
Credit:	2	**Form of Exam:**	Evaluation(5)

week	**topic**
1.	Introduction to health policy. The influence of international organisations (WHO, World Bank etc.) on national health policies.
2.	Health and health policy in the European Union.
3.	The basic principles of health care systems.
4.	Health care services in selected European countries.
5.	Health care services in North American countries.
6.	Quality assurance in health care.
7.	Human resource management in health care.
8.	Introduction to social policy. The aim and task of social policy. The basic values and principles of social policy.
9.	Social policy in welfare states.
10.	The structure and function of social policy in the European Union. Social policy in developing countries.
11.	Poverty, deprivation, patterns of inequalities.
12.	Social policy of high-risk populations I. (immigrant, ethnicity, unemployed).
13.	Social policy of high-risk populations II. (disabled, chronic diseased, elderly).
14.	The evaluation of the social and health care reforms from the beginning of ’90s – world tendencies (Final evaluation).

Surgery I.

Semester:	7th	**Code:**	AOK-OAK471/AOK-OAK472
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Surgery
Credit:	3/-	**Form of Exam:**	Evaluation(5)/Signature

week	**Lecture**	**Practice**
1.	Benign diseases of the breast, Surgery of the breast cancer	
2.	Surgery of the breast cancer, Surgery of the thyroid gland	
3.	Oncoplastic breast surgery, Surgery of the adrenal gland	
4.	Surgery of the mediastinum	
5.	Surgery of the thorax	
6.	**BLOCK PRACTICE**	Active participation in examination of patients and in the daily work on different units. Taking part in operations as 2nd assistant, and observation of operations. Case discussion every day: 12.00-13.00h.

7.	**BLOCK PRACTICE**	Active participation in examination of patients and in the daily work on different units. Taking part in operations as 2nd assistant, and observation of operations. Case discussion every day: 12.00-13.00h.
8.	**BLOCKP RACTICE**	Active participation in examination of patients and in the daily work on different units. Taking part in operations as 2nd assistant, and observation of operations. Case discussion every day: 12.00-13.00h.
9.	**ALL SAINTS DAY (Break)**	
10.	Surgery of the lung cancer	
11.	Vascular surgery	
12.	Vascular surgery	
13.	Cardiac surgery	
14.	Cardiac surgery	

Surgery II.

Semester:	8th	**Code:**	AOK-OAK473/AOK-OAK474
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Surgery
Credit:	3/-	**Form of Exam:**	Evaluation (5)/Signature

week	**Lecture**	**Practice**
1.	Benign and malignant diseases of the oesophagus I. Benign and malignant diseases of the oesophagus II.	
2.	Malignant diseases of the stomach, Benign diseases of the stomach	
3.	Surgery of the liver I Surgery of the liver II	
4.	Surgery of the pancreas I. Surgery of the pancreas II.	
5.	Surgery of the gallbladder and biliary tract I. Surgery of the gallbladder and biliary tract II.	
6.	Minimal invasive surgery, Surgery of the spleen	
7.	Benign diseases of the large intestine	
8.	Malignant diseases of the colon and rectum	
9.	Proctology, the care of intestinal stoma wearing patients	
10.	SPRING BREAK	
11.	Surgery of the thyroid gland, Endocrine Surgery	

12.	**BLOCK PRACTICE**	Active participation in examination of patients and in the daily work on different units. Taking part in operations as 2nd assistant, and observation of operations. Case discussion every day: 12.00-13.00h.
13.	**BLOCK PRACTICE**	Active participation in examination of patients and in the daily work on different units. Taking part in operations as 2nd assistant, and observation of operations. Case discussion every day: 12.00-13.00h.
14.	**BLOCK PRACTICE**	Active participation in examination of patients and in the daily work on different units. Taking part in operations as 2nd assistant, and observation of operations. Case discussion every day: 12.00-13.00h.

Surgery III.

Semester:	9th	**Code:**	AOK-OAK475/AOK-OAK476
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/1	**Department:**	Surgery
Credit:	2/-	**Form of Exam:**	Evaluation(5)/Signature

week	**Lecture**	**Practice**
8.	Appendicitis, Emergency colorectal surgery	Demonstration, investigation of surgical patients. Consultation about the topics of lectures
9.	ALL SAINTS DAY	
10.	Peritonitis	Demonstration, investigation of surgical patients. Consultation about the topics of lectures
11.	Ileus	Demonstration, investigation of surgical patients. Consultation about the topics of lectures
12.	Differential diagnostics of acute abdomen Most frequent interventions in the gastrointestinal surgery	Demonstration, investigation of surgical patients. Consultation about the topics of lectures
13.	Surgery of the thyroid gland, endocrine surgery	Demonstration, investigation of surgical patients. Consultation about the topics of lectures
14.	Surgical immunology, organ transplantation	Demonstration, investigation of surgical patients. Consultation about the topics of lectures

The Clinical Basics of Aviation and Space Medicine

Semester:	8th or 10th	**Code:**	AOK-OAKV061
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Aviation and Space Medicine
Credit:	2	**Form of Exam:**	Evaluation(5)

week	topic
1.	The aeromedical qualification system in civilian and military practice.
2.	Functional diagnostic examinations in practical aviation medicine.
3.	Aeromedical problems in pulmonology and gastroenterology.
4.	The cardiological aspects of aviation medicine.
5.	Excess temperature in aviation.
6.	Neurological and psychiatricalproblems in aviation medicine.
7.	Ophtalmology in aviation medicine.
8.	Emphasized aeromedical issues in oto-rhino-Iaryngology.
9.	The comparison of experiences gained in the MiG-29 and the Gripen.
10.	The issues of alcoholism in aviation medicine.
11.	Rheumatological aspects of aviation.
12.	The medical background of the International Space Station (ISS). Medical care during long-term space flights.
13.	Energy drinks in aviation?

The Language of Effective Doctor-Patient Communication I.

Semester:	7th or 9th	**Code:**	AOK-OAKV621
Course type:	Practice	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Term Mark

week	Lecture	Practice
1.	An introduction to physician – patient communication 1	An overview of communication. Identifying the elements that make up communication
2.	An introduction to physician – patient communication 2	The patient centered approach: patient friendly language in history taking, instructing patients during examinations and discussing treatment options.
3.	Gastroenterology 1	Receiving patients: greeting them and putting them at ease. Introducing yourself as the attending physician and explaining your role.
4.	Gastroenterology 2	The presenting complaint. Encouraging patients to describe their problems in their own words.
5.	Gynecology and obstetrics 1	Asking for history of menstruation Encouraging withdrawn patients to speak
6.	Gynecology and obstetrics 2	Taking obstetric history: previous pregnancies, complications, deliveries, asking for present complaints
7.	Orthopedics	Patient's past medical history. Discussing family medical history. Taking effective notes during the interview.
8.	Endocrinology	Explaining medical terminology to a patient Updating patient notes

9.	Surgery 1	Giving results: explaining results to patients, giving a prognosis
10.	Surgery 2	Planning surgical treatment: explaining treatments/ surgical interventions to a patient, discussing options
11.	Surgery 3	Describing benefits and side effects, negotiating treatment Informed decision making
12.	Pulmonology	Delivering bad news Writing concise and accurate notes
13.	Dental care	Preparing and reassuring the patient during the examination. Negotiating the treatment.
14.	Test/exam	

The Language of Effective Doctor-Patient Communication II.

Semester:	8th or 10th	**Code:**	AOK-OAKV622
Course type:	Practice	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Term Mark

week	**Lecture**	**Practice**
1.	Cardiology	Enquiring about patient's social history. Asking about life-style and environmental health
2.	Anesthesiology and intensive care	Anesthesiological assessment of a patient Describing types of anesthesia Postoperative care
3.	Oncology	Educating and counseling patients and their families Revision of the written documentation of patient care
4.	Dermatology	Discussing treatment options Showing sensitivity and respect to patients
5.	Pediatrics 1	Communicating with children and adolescents. Establishing and developing rapport with a child.
6.	Pediatrics 2	Reassuring a child. Child-friendly instructions. Asking about substance use.
7.	Psychology	Encouraging withdrawn patients to speak. Calming aggressive or angry patients.
8.	Neurology 1	Reassuring a patient or relative. Showing empathy.
9.	Neurology 2	Techniques for communicating with patients with neurological problems. Language to show sensitivity.
10.	Rheumatology	Encouraging patients to express their fears and concerns. Giving a prognosis.
11.	Oto-rhino-laryngology	Summarizing and structuring the interview Communicating with elderly patients

12.	Ophthalmology	Handling complaints Managing unrealistic requests (saying no)
13.	Urology	Encouraging patients to express their fears and concerns Advising on lifestyle
14.	Test/exam	

The role of sonography in critical care

Semester:	8th or 10th	**Code:**	AOK-OASZV681
Course type:	Seminar	**Category:**	elective
Hours/week:	Total 6	**Department:**	Anaesthesiology & Int. Ther.
Credit:	1	**Form of Exam:**	Evaluation (5)

topic

* Ultrasound techniques and point-of-care sonography
  Basic properties of ultrasound machines, basic settings, transducers
  Place for point- of-care sonography
  Role of point-of-care sonography during management of polytraumatised patients:
  FAST („focused assesment with sonography for trauma")
  Suspicion and identifying of abdominal and pelvic fluid collections, hematomas, bleeding, urinary retention. US-guided abdominal tap.
  US-guided peritoneal tap
  Signs of atelectasis, infiltration
  Pleural effusion, pneumothorax
  US-guided pleural tap (thoracocentesis)
* Sonographic differential diagnosis of patients with unstable hemodynamics I.
  a) suspicion and identification of acute myocardial infarction, acute valvular regurgitation, acute right-heart failure. Estimation of global left ventricular function and heart chamber dimensions.
  b) Identification of pericardial effusion. US-guided pericardial tap (pericardiocentesis)
* Sonographic differential diagnosis of patients with unstable hemodynamics II.
  Examination of inferior vena cava, collaptibility, fluid responsiveness. Examination of aorta, suspicion/identification of aortic dissection, aortic aneurysm
  b) US guided vascular interventions: insertion of a central venous cannula
  c) US guided intervention: percutaneous tracheotomy
  d) Role of ultrasound in intracranial pathology (trauma, intracranial bleeding, intracranial pressure elevation): measurement of n. opticus diameter, role of transcranial Doppler ultrasound.
* Ultrasound guided regional anaesthesia
* Bedside practice
* Exam

Thesis writing in English-academic language and style

Semester:	9th	**Code:**	AOK-OASZV641
Course type:	Practice	**Category:**	elective
Hours/week:	2	**Department:**	Med. Comm. and Translation
Credit:	2	**Form of Exam:**	Term Mark

topic

* General structure of the thesis, thesis types
* Scientific English style: objectivity, formality, complexity, explicitness, hedging, responsibility, and precision

* The Abstract
* The Introduction. Formulating hypotheses and research questions.
* Citation rules, in-text and end-text referencing.
* The Methods
* The Results. Tables, charts and other types of illustration.
* The Discussion.
* Other parts of the thesis: Acknowledgements, Appendix, Questionnaires, Conflict of interest, Declaration of ethics.
* Presenting the thesis. How to make oral presentations?

Traumatology

Semester:	10th	**Code:**	AOK-OAK511/AOK-OAK512
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	2/2	**Department:**	Traumatology
Credit:	3/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Introduction to the evaluation and treatment of the trauma patient, primary – secondary survey Role of trauma care	Types of wounds, wound management. Types of sutures. The primary survey: physical examination of trauma patients (ABCs), imaging techniques. Interpretation of X-ray images.
2.	General principles of wound management and healing. Fracture healing, delayed bone healing, non-union. Pathological fractures. AO principals of fractures management	Classification of fractures, principles of fracture management. Introduction to trauma implants. Plaster technique.
3.	Upper extremity I. Shoulder girdle injuries, proximal humeral injuries	Shoulder examination. Replacement techniques of shoulder dislocation (Artl, Hippocrates). Introduction to Gilchrist bandage. Examination of rotator cuff injuries.
4.	Upper extremity II. Distal humeral injuries, elbow injuries, forearm injuries.	Indications for functional and surgical treatment of surgical neck fractures of the humerus. Treatment options for humeral diaphysis fractures. X-ray presentation.
5.	Upperextremity III. Wrist injuries, hand injuries. Hand infections. Replantation. Reconstructive procedures. Peripheral nerve injuries. Injuries of the brachial plexus.	Diagnosis of radius fractures, demonstration of closed reduction and plaster fixation. Practice of plaster technique, application of radius plaster. Indications for conservative and surgical treatment. X-ray presentation.
6.	Burn injuries. Special considerations (pregnant, elderly, pediatricpatients, PTSD)	Examination of the hand function. Demonstration of Moberg's scheme. Treatment options for tendon and nerve injuries.
7.	Craniocerebral injuries, spine injuries	Radiological presentation of scaphoideal fractures, carpal instabilities, treatment options.

8.	Torso trauma I. Chest injuries	Examination of pelvic and acetabulum fractures, options for temporary fixation of the pelvis. Transport of trauma patient with pelvic fracture. X-ray presentation.
9.	Torso trauma II. Abdominal trauma	Clinical diagnosis of femoral neck fractures. Examination of the hip joint. Patient examination. Treatment options for hip fractures. X-ray presentation.
10.	Torso trauma III. Pelvic fractures, acetabular fractures	Examination of the knee joint (Sternmann I-II, Böhler, McMurray, valgus-varus stress, anterior-posterior tableau symptom, Lachmann test). Diagnosis of meniscus injuries, treatment options. Cruciate ligament replacements.
11.	Polytrauma	Ankle joint examination. Functional anatomy of the ankle and foot. Principles of care for ankle fractures, ligament injuries. Diagnosis and treatment of calcaneal fractures. X-ray presentation.
12.	Lower extremity I. Proximal femoral region injuries, hip-, femoral shaft fractures. Traumatic hip displacement.	Neurological examination of head injury. Examination of brain nerves, sensory and motor functions. Neurological examination of spinal cord injury. Transport of the spinal cord injured.
13.	Lower extremity II. Distal femoral fractures, knee injuries, proximal tibia fractures	Examination of a polytrauma patient. Primary and secondary survey. Presentation of FAST. DCS and ETC principles. Examination of chest trauma, differential diagnosis of chest injuries.
14.	Lower extremity III. Injuries fractures around the ankle, foot injuries	Internal medicine examination of the injured, preparation of the patient for surgery in the ICU/ward. Importance of anaesthesiological investigations, consideration of surgical risk.

Tropical Diseases

Semester:	8th or 10th	**Code:**	AOK-OAKV651
Course type:	Lecture	**Category:**	compulsory elective
Hours/week:	2	**Department:**	Clinical Microbiology
Credit:	2	**Form of Exam:**	Evaluation(5)

week	**topic**
1.	General aspects of tropical diseases. Characteristic diseases of the gastrointestinal tract focusing on bacterial infections frequently seen in tropical areas. Pathogenesis, clinical and laboratory diagnosis, and therapeutic options. Travellers' diarrhoea. Pathogenesis, clinical and laboratory diagnosis.
2.	Diarrhoea caused by protozoa: entamoebiasis, cryptosporidiasis, giardiasis, and diseases caused by *Isospora*, *Balantidium*, and *Capillaria*. Pathogenesis, clinical and laboratory diagnosis, and therapy. Epidemiology, life cycles clinical and laboratory diagnosis. Therapy.
3.	Special aspects of viral infections in tropical areas. Geographical distribution, pathogenesis, clinical and laboratory diagnosis of arboviruses. Pathogenesis, clinical and laboratory diagnosis of viral haemorrhagic fevers; Marburg and Ebola viruses. Importance of the early diagnosis of imported viral infections in non-tropical countries. .
4.	Arthropod-borne infections caused by various bacteria, and spirochetes in tropical areas. Distribution of various vectors which may influence the emergence of a disease. Plague. Clinical and laboratory diagnosis, and therapy.

5. SARS, avian flu, rabies, West Nile virus- and other rare viral infections characteristic in some tropical countries. Slow viruses. Clinical picture, pathogenesis, and diagnostic possibilities.
6. Malaria, schistosomiasis. Causative agents, distribution of vectors, pathogenesis, clinical and laboratory diagnosis, and therapy
7. Tuberculosis, leprosy, and other bacterial infections with special emphasis on tropical areas (meningitis caused by *N. meningitidis*, and rhinoscleroma). Clinical and laboratory diagnosis. Differences in clinical picture in the tropical areas compared to other countries. Therapy.
8. Sexually transmitted infections and diseases. Differences in the presentation of various bacterial and viral STDs in tropical areas. AIDS in Africa and in other undeveloped countries. Clinical symptoms, epidemiology, laboratory diagnosis, and therapy. AIDS-related infections and therapy.
9. A physician's experiences in the tropical area I.
10. Viral exanthemas and central nervous system infections in the tropical area. Clinical symptoms, epidemiology, laboratory diagnosis, and therapy.
11. A physician's experiences in the tropical area II.
12. Infections associated with immunosuppression and HIV. Clinical symptoms, epidemiology, pathogenesis, and laboratory diagnosis.
13. Lesser known viral infections in the tropical area. Clinical manifestation, pathogenesis, and diagnostic possibilities.
14. Written exam.

Urology

Semester:	9th or 10th	**Code:**	AOK-OAK521/AOK-OAK522
Course type:	Lecture/Practice	**Category:**	compulsory
Hours/week:	1/2	**Department:**	Urology
Credit:	2/-	**Form of Exam:**	Exam/Signature

week	**Lecture**	**Practice**
1.	Signs and symptoms urological diseases. Case history and the physical examination.	Case history, physical examination. Case presentation.
2.	Congenital anomalies.	Signs and symptoms of the urology patient. Case presentation.
3.	Urolithiasis.	Catheters and endoscopic instruments.
4.	Incontinency.	Endoscopy.
5.	Urotraumatology.	Percutaneous epicystostomy and nephrostomy.
6.	Acute and chronic renal failure.	ESWL.
7.	Nonspecific infections in the urology.	Uro-radiology.
8.	Tumors of the kidney and ureter.	Physical examinations of patients.
9.	Tumors of the bladder.	Laboratory investigations in the urology.
10.	Tumors of the external male genitalia.	Biopsy from bladder, prostate and testis.
11.	Tumors of the prostate.	Evaluation of sonography.
12.	BPH.	Physical examinations. Case reports.
13.	Acute urology.	Visit to operating theatre.
14.	Consultation	Acute urology

VOW TO BE MADE BY 1ST YEAR MEDICAL STUDENTS

I ……., /
as the student of the University of Szeged /
promise solemnly /
that I will observe and adhere /
to the rules and regulations of Hungary. /
Also I will observe and adhere /
to the rules and regulations /
of the University of Szeged /
and I am aware of these. /
I devote all my best efforts /
to go through with my studies here /
as efficiently as possible. /
I will give my teachers /
the respect and gratitude /
which is their due. /
I will respect the secrets /
which are confided in me /
even after the patient has died. /
I will maintain by all means in my power /
the honor and the noble traditions /
of the medical profession. /
I will devote my time and efforts /
to learn the progressive achievements /
of the basic and clinical sciences /
in order to use this knowledge /
for advancing medicine, /
for the care of my patients /
and to promote man's progress on Earth. /
I will use the University's computer network and tools /
solely for the purpose of studying /
and I will adhere /
to the data protection /
and network usage regulations. /
I make these promises solemnly,/
freely, /
and upon my honor. /

OATH TO BE TAKEN BY MEDICAL GRADUATES

I, …… name ……., / on this occasion / of my admission / to the ranks of the medical profession / swear on my honor / to devote my talents and knowledge / to the benefit of mankind.
I shall hold / University of Szeged in esteem.
I shall count those / who have instructed me / in the science of medicine / as my masters, / and shall show them / gratitude and respect at all times.
I shall impart my medical knowledge / and experience / to the generations of physicians to come. / I shall constantly labour / to increase my erudition / with a view to developing / and advancing medical science. / I shall practice my profession / conscientiously.
I vow to devote / my medical knowledge / to the protection of health / and to the benefit of the sick. / I shall treat / and advise patients / in the best of their interest / and to the best of my knowledge / and convictions / and I shall strive / to safeguard their health / against hazardous / and injurious effects.
I shall reveal no secret / concerning my fellow men / whether learned within my practice of medicine / or outside it / unless the law demands this.
I shall inform the patients / and also their relatives / if the patients' interest so requires / as to the patients' condition / and the method of treatment / in a timely and considerate manner. / I shall issue a medical certificate / only in accordance with my true convictions.
I shall conduct myself / towards the patients / my fellow physicians and the society as a whole, / in a matter befitting my calling as a physician. / I shall preserve the honor / of the medical profession / and its noble traditions.
I shall not be hampered / from fulfilling the duties of my profession / on the grounds of social, / political, / national, / racial / or religious distinction.
I take this oath solemnly / and of my own free will.

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