BULLETIN

UNIVERSITY OF DEBRECEN

ACADEMIC YEAR 2015/2016

FACULTY OF DENTISTRY

Coordinating Center for International Education
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WELCOME FROM THE DEAN

It is my pleasure to greet the new members of the University of Debrecen, the students of the Faculty of Dentistry. I hope you will enjoy your stay in our country, in our town and at our University. Please keep in mind that education is based on a mutual trust and a very close partnership. On behalf of me and the whole staff I assure you that we will do our best to provide you all the latest theoretical and practical knowledge to make you a successful dentist. In return, you have to make every effort to study efficiently and demonstrate the highest quality clinical knowledge and expertise, ethical behaviour and respect towards your teachers, patients and fellow students during your training. The five years will give you graduate training programs that maximize your dental knowledge. This bulletin is to guide you through your five-year studies. It contains essential information about the educational programs, the course, content and description, the description of the general and special requirements for graduation at our University. However, we reserve the right of modification, eg. in case of the timetable or choosing the place of the lessons according to the current/latest rules and regulations and the decisions of the Senate of the University of Debrecen and the Faculty Council of the Faculty of Dentistry. We expect you to respect your lecturers, student mates, patients and always show an ethical behaviour worthy of a prospective doctor.

Last but not least, I would like to draw your attention to the sport and leisure opportunities provided by the University of Debrecen, we hope that the years spent in the country's second largest city are going to give you beautiful memories. I encourage you to read this booklet carefully, and become a unique and competent dentist of your country.

Best wishes: the Dean
CHAPTER 2
INTRODUCTION

The Faculty of Dentistry is part of the University of Debrecen and is located in the main campus, only 15 minutes from the city center of Debrecen. Debrecen is situated in the eastern part of the country. Hungary is a small, central European country with an area of 93,036 ksqm. The River Danube divides the country into two: the western part is hilly and the eastern part is mostly flat. The capital is Budapest (1,837,000). The population of Hungary is 10,092,000. (For more information please visit: www.Hungary.hu) With the population of 250,000, this historic city, Debrecen, is the second largest in the country. It is a real university town with over 32,000 students. The history of higher education dates back as far as the sixteenth century, when the center of science, art and education, the Reformed College was established. This served as a base for the foundation of the University. The University was completed in 1932, in a unique campus form situated in a beautiful forest called Great Forest.(see more about the university and the city at www.debrecen.hu. and www.med.unideb.hu). History of the Faculty The Faculty of Dentistry is one of the youngest faculties at the University of Debrecen, however, dental education dates back as far as 1935. At that time it was integrated into the course of the General Medical training program. Though operating under unfavorable conditions, - there was no separate building available-, the School of Dentistry gained considerable reputation over the years both in Hungary and abroad. The first Dentistry students began studying in the academic year 1976-77. The increasing demand to supply North-East Hungary with dentists made it necessary to set up a self-contained dentist training program and a separate, modern 200 sqm building was designated for this purpose. Completed in 1981, it provided suitable conditions for high-quality work with 40 dental units, a lecture hall, a library, a dental and a phantom lab. It became the second building dedicated entirely to Dentistry in the country. The school was subdivided into six units: restorative-, prosthetic-, pediatric dentistry, orthodontics and periodontology. Dental surgery (678 sqm) remained in the original building after the required reconstructions. The year 2000-2001 brought about important changes in the life of the Dental Institute: the increasing number of Hungarian students and the introduction of dental training for foreign students in English made extension necessary. In 2003 the Faculty of Dentistry came into being at the University of Debrecen. It is a very important result that the Dentistry program could transform into a faculty at all, since this was the second independent faculty of Dentistry ever established in Hungary, created 50 years after the one in Budapest. In the year 2004, after the Dental Institute became Faculty, a new 2-story, 2100 sqm building opened its door, with 32 dental units in 8 consulting rooms. The big lecture hall can host 100 people and there are three seminar rooms which can seat 50 students each. Parallel to the construction of the new building, reconstruction works took place in the former one. 40 old dental units were replaced and in the phantom lab 36 well-equipped working places were created. The Faculty offers not only undergraduate but postgraduate programs designed to produce specialist practitioners in six disciplines and also offers research training programs (PhD) to produce research scholars of international standing. Specialist postgraduate training is available in the discipline of: restorative and prosthetic dentistry, orthodontics, pediatric dentistry, periodontics, dento-alveolar oral surgery, and maxillofacial oral surgery. The Faculty is responsible for the continuous training of 700 dentists in the region and also attracts numerous applicants from all over the country. To provide equal rights to the disabled and handicapped patients and to maintain good oral health a new wing is designed for treating these special-need patients. The ever increasing number of Hungarian and foreign students made it necessary to extend the working area and facilities. These were the main reasons of the new construction and reconstruction, which started in the year of 2010. By the time of 2012 a brand new building with 40 dental units will a wait the students who would like to start their education, a new dento-alveolar and maxillofacial surgery will provide the latest technology for curing patients and among them the disabled ones. These developments assure the highest quality of education, research and treatment. The Faculty has established collaborative links with a number of universities located in Finland, England, Taiwan, Turkey, Sweden, Romania, and Ukraine.
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Introduction to the Fixed Prosthodontics, Dental Materials, Propedeutics and Technology of Fixed Prosthodontics, Prosthetic Dentistry, Propedeutics and Technology of Total and Partial Removable Dentures

**Department of Periodontology:**
Oral Medicine, Periodontology, Radiology, Dental Radiology

**Department of Pediatric Dentistry and Orthodontics:**
Preventive Dentistry, Pediatric Dentistry, Orthodontics

**Department of Oral and Maxillofacial Surgery:**
Oral Surgery Propedeutics, Oral Surgery

*Basic and general medical subject coordination*

**Department of Dental Anatomy:**
Oral Anatomy, Histology and Embriology, Neurobiology, Cell Biology

**Department of Dental Physiology and Pharmacology:**
Dental Physiology, Immunology, Dental Pharmacology

**Department of Dental Biochemistry:**
Genetics, Biophysics, Medical Chemistry, Biochemistry, Molecular Biology

**Department of Dental Medicine:**
Internal Medicine, Pediatrics, Neurology, Psychiatry

**Department of Oral Pathology and Microbiology:**
Forensic Medicine, Dental Microbiology, Complex Pathology

**Department of Human Surgery and Operative Techniques, Institute of Dental Sciences:**
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<tr>
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<td>Roland Tisljár M.A., Ph.D.</td>
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<td>János Kristóf Bodnár M.A., Ph.D.</td>
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<td>Ms. Eszter Tisljár - Szabó M.A., Ph.D.</td>
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<td>Librarian</td>
<td>Gergo Somogyi B.Sc.</td>
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<tr>
<td>Psychologist</td>
<td>Ms. Beáta Kovács-Tóth M.A.</td>
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<td>Invited Lecturer</td>
<td>Bence Döbrössy M.A.</td>
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<tr>
<td>Other Graduated Staff Member</td>
<td>Ms. Zsuzsa Kovács Török M.A., Ph.D.</td>
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<tr>
<td>Intern</td>
<td>Ms. Bernadett Bodor M.Sc.</td>
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<td>Ms. Katalin Mária Dallos M.Sc.</td>
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<tr>
<td>PhD Student</td>
<td>Dániel Balajthy M.Sc.</td>
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<td>Ms. Amanda Illés M.Sc.</td>
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<td>Szabolcs Kató M.Sc.</td>
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<td>Ms. Orsolya Micskei M.Sc.</td>
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<td>Ms. Brigitta Munkácsi M.Sc.</td>
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<td>Ms. Anikő Nagy</td>
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<tr>
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<td>Gellért Raffai M.Sc.</td>
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</tr>
<tr>
<td>Academic Advisor</td>
<td>Ms. Mónika Andrejkovics M.A., Ph.D.</td>
<td>(4th year, Behavioural Medicine, Behavioural Science Final Exam)</td>
</tr>
<tr>
<td></td>
<td>Attila Bánfalvi M.A., Ph.D., C.Sc.</td>
<td>(3rd year, Medical Anthropology, Medical Sociology)</td>
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<tr>
<td></td>
<td>Péter Kakuk M.A., Ph.D.</td>
<td>(4th year, Bioethics)</td>
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<tr>
<td></td>
<td>Ms. Judit Molnár M.A., Ph.D.</td>
<td>(3rd year, Medical Psychology, 5th year, Pharmaceutical Psychology)</td>
</tr>
<tr>
<td></td>
<td>Roland Tisljár M.A., Ph.D.</td>
<td>(1st year, Basics of Behavioural Sciences, Communication)</td>
</tr>
</tbody>
</table>
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Other Graduated Staff Member
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Ms. Eszter Kovács M.D.
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Péter Szerze M.D.

Ms. Margit Szövetes M.D.

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

Full professor, Head of Biomarker Analysis Division
<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
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<tbody>
<tr>
<td>Associate Professor, Head of Biostatistics and Epidemiology Division</td>
<td>János Sándor M.D., Ph.D.</td>
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<tr>
<td>Associate Professor, Head of Health Promotion Division</td>
<td>Ms. Karolina Kósa M.D., M.Sc., Ph.D.</td>
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<tr>
<td>Associate Professor, Head of Dep. of Hygiene and Infection Control</td>
<td>Ms. Piroska Orosi M.D., Ph.D.</td>
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<td>Professor Emeritus</td>
<td>Pál Kertai M.D., Ph.D., D.Sc.</td>
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<tr>
<td>Associate Professor</td>
<td>Balázs Ádám M.D., M.Sc., Ph.D.</td>
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<td></td>
<td>Ms. Helga Bárdos M.D., M.Sc., Ph.D.</td>
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<td></td>
<td>Sándor Gődény M.D., Ph.D.</td>
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<td>Sándor Szűcs C.Sc.</td>
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<tr>
<td>Assistant Professor</td>
<td>Ervin Árnyas M.Sc., Ph.D.</td>
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<td>Ms. Szilvia Fialat M.D., Ph.D.</td>
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<td>Ms. Orsolya Varga M.D., Ph.D.</td>
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<td>Ms. Éva Bíró M.D.</td>
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<td>Tamás Köbling M.D.</td>
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<td>Attila Csaba Nagy M.D.</td>
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<tr>
<td>Resident</td>
<td>Ms. Dóra Dezső M.D.</td>
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<td>József Legoza M.D.</td>
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<tr>
<td>Hungarian Academy of Sciences University of Debrecen Public Health</td>
<td>Ms. Szilvia Ecsedi M.Sc.</td>
</tr>
<tr>
<td>Research Group Fellow</td>
<td>Ms. Nóra Kovács M.Sc.</td>
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<tr>
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<td>Ms. Ágota Moravcsik-Kornyicki M.Sc.</td>
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<td>István Szász M.Sc.</td>
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<tr>
<td>Research Assistant</td>
<td>Ms. Valéria Tomori M.Sc.</td>
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<tr>
<td>PhD Student</td>
<td>Gábor Rácz M.D.</td>
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<td>Ms. Orsolya Csenteri M.Sc.</td>
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<td>Viktor Dombrádi jr M.Sc.</td>
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<td>Esafiogho Peter Eseroghene M.Sc.</td>
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<td>Ms. Viktória Koroknai M.Sc.</td>
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<td>Ekundayo Babajide Otuyelu M.Sc.</td>
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<tr>
<td></td>
<td>Ms. Karolina Rigó M.Sc.</td>
</tr>
</tbody>
</table>
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UNIVERSITY CALENDAR FOR DENTISTRY PROGRAM 2015/2016 ACADEMIC YEAR
CRASH COURSE OF HUNGARIAN LANGUAGE: August 24 - September 4, 2015

OPENING CEREMONY: September 6, 2015

DENTISTRY GRADUATION: June, 2016

1st SEMESTER

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<td>Basic Medicine Course</td>
<td>September 7 - December 18, 2015 (15 weeks)</td>
<td>December 21, 2015 - February 5, 2016 (7 weeks)</td>
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<td>5th year Dentistry</td>
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2nd SEMESTER

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<tr>
<td>BMC</td>
<td>February 8 - May 20, 2016 (15 weeks)</td>
<td>May 23 - June 17, 2016 (4 weeks)</td>
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<td>BMC II</td>
<td>January 11 - June 24, 2016 (24 weeks)</td>
<td>June 27 - July 15, 2016 (3 weeks)</td>
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<td>1st year Dentistry</td>
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<td>May 23 – July 8, 2016 (7 weeks)</td>
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<td>3rd year Dentistry</td>
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<td>4th year Dentistry</td>
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<td>5th year Dentistry</td>
<td>February 8 – April 29, 2016 (12 weeks)</td>
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SUMMER PRACTICE

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<td>July 11 - July 22, 2016 or July 25 - August 5, 2016 (2 weeks)</td>
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<td>4th year Dentistry</td>
<td>July 11 - August 5, 2016 or August 8 - September 2, 2016 (4 weeks)</td>
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CHAPTER 9
GENERAL INFORMATION

The student handbook (bulletin) has been designed to help the students to find their way in educational matters. It lists all the courses, credit points, protocols, guidelines, and information. The faculty reserves the right to add or cancel courses, change the times or locations, revise course requirements and schedules.

The rules and regulations can be found in detailed form in the syllabus “Rules and regulations for English program students”. Student enrolled at the University of Debrecen must accept the University rules and requirements.

The Faculty is committed to provide the best learning and working environment to all students without discrimination, harassment on the ground of sex, race, disability, religion and belief or national origin. The dental curriculum is special and unique because students perform treatments on patients before getting their doctoral diploma. For the patient safety students must be able to meet the following standards:

To treat patient successfully and safely the student must have sufficient motor skill to work with hand and electric instruments. The student must be able to perform palpitation, percussion, auscultation and other diagnostic procedures. The student must have reliable gross and fine muscular movements, senses of touch and vision. The student requires the capability to operate all the dental equipments, both high and low speed hand pieces.

The student must be able to take an accurate dental and medical history from the patient. The student must be able to analyze and interpret x-ray and other graphic images which are necessary for the proper diagnosis. Student must be able to perform a visual and tactile dental examination including the observation of the shape, color and abnormalities both extra and intra orally. The students must be able to discuss problems, treatment with the patients, gather and exchange information, give directions during treatment and must be able to give advice to the patients.

The student must be able to communicate in oral and in written form and must have the ability to write a patient chart.

Student must be able to speak, analyze, synthesize, and integrate and must be able to take oral and written examinations, too. A student must be able to tolerate intellectually and physically the workloads, and to function effectively under stress. The student must have positive personal qualities such as respect, understanding, and concern for others and also must perform a professional doctoral behavior.

The Faculty believes that only respect, courtesy and understanding can create and maintain an effective learning and working atmosphere. Interaction based on mutual respect enhances the educational possibilities. Dishonest, unethical, unprofessional behavior, cheating that interferes with teaching, administration or patient care is not tolerated by the Faculty.

For proper treatment, infection control and overall hygiene the students must achieve and consistently demonstrate acceptable level of general personal care standards and should dress professionally. A long white laboratory coat must be worn during practical classes. The white coat must be clean and ironed and must not be worn outside the clinical treatment areas. The name badge must be worn when undertaking clinical practical lessons. Badges must be worn in a prominent position where it is clearly visible. Caps, head gears should not be used during patient treatment. Hair should be clean, long-hair should be pinned or held back, so it won’t disturb vision, or cause accident. Excessive use of makeup and perfume/aftershave must be avoided. Fingers and fingernails should be clean, trimmed; colored lacquer should not be used during patient treatment. Rings that may compromise clinical protective barriers should not be worn in clinics. Lockers are provided for the protection of students’ personal belongings. These should not be kept in operation rooms or laboratories. The Faculty however, cannot accept responsibility for loss or theft of property. The cleanliness of the preclinical laboratories is the responsibility of students. When a student completes his or her use of a support area, it should be left in acceptable condition for the next student’s use. It is expected that student will exercise care when using school equipment. All equipment failure should be reported immediately. Students must always act in the best interest of the patient. Each student must exhibit professional courtesy toward faculty, supporting staff, fellow students, patients and their relatives.

All members of the faculty and administration are available to consult with students on personal and professional matters but only at given hours. Consulting hours can be found on the main, the departmental and the Dean's office information boards.

General description of graduate training

The education at the faculty of dentistry takes five year which is divided into 10 semesters. The duration of each semester is 15 weeks with the exception of the last semester, which lasts 12 weeks. An academic year consists of two semesters: the fall and spring semesters. No student can be admitted later than 10 days after opening of an academic semester. The requirement for participation through attendance is a critical part of education. The attendance policy is established by the course directory for each course and published in the Bulletin. Excessive absence may result in failing the course. Absence in access of 20% of the total hours in any dental course will result that the student cannot complete the semester. There is no possibility to compensate the missed practical lessons. The faculty uses the credit
system accepted all over the world. The credit sum that the student must achieve by the end of the fifth year is 300 points, comprised of compulsory (80%), required elective (15%) and freely chosen subjects (5%). The students must take into consideration that precondition for the selection of one certain subject might be the successful completion of another. The credit system allows the student to have an individualized learning program. In order to maintain continuity in the curriculum, an absence from the program should not extend more than a week. To get the credit points the student must take required final examination of the course. An absence from an examination will be counted as a grade of 1 (fail).

To get the D.D.S diploma the students must complete the prescribed curriculums, pass the necessary examinations, and receive the required 300 credit points, write and defend their thesis and have a successful State Dental Examination part I (written) and Part II (oral). Failure to take the written examination means that part II (oral) can not be taken until the student passes the part I.

Courses are categorized into 4 modules (basic, general and preclinical dentistry and general medical and clinical dentistry) as defined by the qualification requirements. Students must complete a certain percentage of the total credit number in each module as prescribed by the Rules and Regulations.

Students must earn 285 credits out of the 300 by completing the compulsory, required elective subjects.

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<th>Subjects of the basic module:</th>
<th>General and dental preclinical modules:</th>
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<td>Biophysics</td>
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<td>Biostatistics</td>
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<td>Medical Chemistry</td>
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<td>Anatomy, Histology and Embryology</td>
<td>Dental Materials</td>
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<tr>
<td>Molecular biology</td>
<td>Introduction to fixed prosthodontics</td>
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<tr>
<td>Cell Biology</td>
<td>Restorative Dentistry Propedeutics (Cariology, Endodontology)</td>
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<tr>
<td>First Aid and Reanimation</td>
<td>Prosthetics Dentistry Propedeutics</td>
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<td>Biochemistry I-II.</td>
<td>Oral Biology</td>
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<td>Dental Physiology I-II.</td>
<td>Radiology and Dental Radiology</td>
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<td>Neurobiology</td>
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<td>Dental Microbiology</td>
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<thead>
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<th>General medical modules</th>
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<tr>
<td>Internal medicine I-II</td>
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<td>Periodontology I-III.</td>
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<td>Pharmacology I-II.</td>
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<td>Preventive Medicine</td>
<td>Restorative Dentistry I-IV.</td>
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### CHAPTER 9

<table>
<thead>
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<th>Subject</th>
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<th>Subject</th>
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</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>2</td>
<td>Orthodontics I-II.</td>
<td>3</td>
</tr>
<tr>
<td>Oxyology</td>
<td>2</td>
<td>Oral Medicine</td>
<td>1</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>2</td>
<td>Complex Dentistry I-IV.</td>
<td>34</td>
</tr>
<tr>
<td>Neurology</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forensic Medicine</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obstetrics and Gynecology</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DEGREE REQUIREMENTS

1. Completion of the Physical Education courses as prescribed by the Curriculum.
2. Completion of the summer practices.
3. Final comprehensive exam of Pathology I. II. and 2 special Pathology required elective courses for dental students.

#### Compulsory final exams for degree

- Anatomy
- Biochemistry
- Dental Physiology II.
- Pediatric Dentistry II.
- Orthodontics II.
- Restorative Dentistry IV. (Cariology and Endodontics)
- Periodontology III.
- Prosthetic Dentistry IV.
- Oral Surgery IV.
- Pathology II.
- Pharmacology II.
- Internal Medicine II.

#### Important exams for qualification of degree

- Biophysics
- Medical Chemistry
- Oral Anatomy, Histology and Embryology
- Molecular Biology
- Cell Biology
- Neurobiology
- Dental Microbiology
- Clinical Biochemistry II.
- Preventive Medicine
- Oxyology
- Otolaryngology
ACADEMIC PROGRAM FOR THE BASIC MEDICINE COURSE

CHAPTER 10

ACADEMIC PROGRAM FOR THE BASIC MEDICINE COURSE

Basic Medicine Course (BMC, Premedical Studies)

Duration of studies: 1 year (2 semesters)

The one-year premedical Basic Medicine Course is recommended to those students who do not have sufficient knowledge in Biology, Physics and Chemistry from high school. The requirements in these premedical science subjects are rigorous, thus it is recommended that students who need a period of preparation prior to beginning the General Medicine, Dentistry or Pharmacy Program join the Basic Medicine Course. Students successfully completing the course are directly admitted to their chosen program. In addition to the Basic Medicine Course starting each September, our University launches an Intensive BMC in January as well.

Class Behavior

Students must not use cell phones to talk or text during class. Cell phones must be switched off or kept in silence mode during class. In seminars, students will be expected to participate in seminar discussions. Students are encouraged to ask questions related to the topic of the lectures discussed, and participate in solving problems related to the topic of the seminar. Some professors will ask for students to volunteer information, but some professors call on students randomly. It is, thus, a good idea to come to class prepared so as not to be embarrassed in front of the class. Students should not disrupt the class by talking to each other. If one continues to disrupt the class, the student may be asked to leave. The usage of electronic devices, textbooks and any form of interaction between students during the tests is strictly forbidden. Electronic devices (cell phones, tablets, dictionaries, etc.), except for approved simple calculators, must not be within the reach (in pocket, in the desk, etc.) of students during tests. It is the students' responsibility to stow these items before the test begins without specific warning by the supervising teachers. Violation of these above mentioned regulations results in an immediate and unconditional dismissal from the program.

Requirements

The 2-semester course consists of lectures and seminars. Attending lectures is strongly recommended, attendance of seminars is compulsory and recorded. Everyone must attend the seminars with the group designated by the Registrar's Office.

Absence can significantly affect your understanding and can have serious implications of progression in your studies. One might have a maximum of three seminar absences per semester to have the opportunity to get exemption. Students missing 4 seminars per semester cannot be exempted from the End of Semester Examination (ESE) or Final Examination (FE), regardless of their score reached on the Self Control Tests. Students missing 5 or more seminars per semester are dismissed from the course. Missed seminars cannot be made up, unless one obtains prior permission to be absent.

The knowledge of students will be tested 4 times during each semester using a written test system by Self Control Tests (SCT). The first semester is ended with an End of Semester Examination (ESE) covering the topics of all lectures and seminars of the first semester. Three dates will be set for the ESE during the winter examination period. Unsuccessful students may repeat the ESE twice (B and C chances). Non-repeater students who fail even the 3rd ESE (C chance) may continue their study in the second semester however they lose their chance to be exempted from the final examination and to receive bonus points. Exam exemption and bonus point policy is used to improve the students’ performance on SCTs. Exact details of these policies will be described below. To be eligible for bonus points, students must either get exemption from the ESE or pass it with a score of at least 55%. Students repeating the course must successfully pass the first semester either with exemption or at least with a score of 55% of ESE, otherwise their studies will be terminated. It is not compulsory to take the ESE, if one gets exemption under the following circumstances:

- one’s average score of the three best first semester SCTs is at least 65%, AND
- (s)he successfully completed all the SCTs at least with 40% score, AND
- (s)he has a maximum of 3 seminar absences for each subject in the first semester.
CHAPTER 10

The course ends with a Final Exam (FE) covering the whole material of the first and second semesters. A minimum of four FE dates will be set during the summer examination period. Unsuccessful students may repeat the FE twice (B and C chances, and the latter ends up with an oral examination part). Exemption from FE is offered for students who achieve excellent academic performance during their studies on the following base:

- the average score of the six best SCTs (out of 8) of the two semesters is at least 65%, AND
- passed all the SCTs with at least 40%, AND
- (s)he has a maximum of 3 seminar absences for each subject per semester.

OR

- the average of the ESE score taken 3 times plus the scores of the 3 best SCTs in the 2nd semester is at least 65%, AND
- passed all the SCTs with at least 40%, AND
- (s)he has a maximum of 3 seminar absences for a given subject per semester.

Bonus points will be added to the FE score (in %) of eligible students and calculated as follows:

<table>
<thead>
<tr>
<th>The average of the ESE score three times and the best 3 2nd semester SCTs</th>
<th>Bonus points (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR the average of the best 6 SCTs</td>
<td></td>
</tr>
<tr>
<td>51-52</td>
<td>1</td>
</tr>
<tr>
<td>53-55</td>
<td>3</td>
</tr>
<tr>
<td>56-58</td>
<td>5</td>
</tr>
<tr>
<td>59-61</td>
<td>7</td>
</tr>
<tr>
<td>62-64</td>
<td>9</td>
</tr>
</tbody>
</table>

Students who could not meet the above described conditions for exemption during the two semesters must sit for the FE from the whole material of the first and second semesters. The participation shall be preceded by ID confirmation (i.e. student’s card, passport or driving license) before all forms of tests.

Self Control Tests, End of Semester Exams, and Final Exams will be assessed as follows.

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 54.99:</td>
<td>fail (1)</td>
</tr>
<tr>
<td>55.00 - 64.99:</td>
<td>pass (2)</td>
</tr>
<tr>
<td>65.00 - 74.99:</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>75.00 - 84.99:</td>
<td>good (4)</td>
</tr>
<tr>
<td>85.00 - 100:</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Absence for any reason counts as 0%.

Course coordinator: Dr. Beáta Lontay, Department of Medical Chemistry
Subject: INTRODUCTION TO BIOLOGY I.
Year, Semester: Basic Medicine Course, 1st
Number of teaching hours:
Lecture: 60
Seminar: 30

1st week:
Lecture: The chemistry of life 1.
The chemistry of life 2.
Proteins, carbohydrates and lipids 1.
Proteins, carbohydrates and lipids 2.

2nd week:
Lecture: Proteins, carbohydrates and lipids 3.
Proteins, carbohydrates and lipids 4.
Nucleic acids and the origin of life 1.
Nucleic acids and the origin of life 2.

3rd week:
Lecture: Nucleic acids and the origin of life 3.
Cells: the working units of life 1.
Cells: the working units of life 2.
Cells: the working units of life 3.

4th week:
Lecture: Cells: the working units of life 4.
Energy, enzymes and metabolism 1.
Energy, enzymes and metabolism 2.
Cell membranes 1.

5th week:
Lecture: Cell membranes 2.
Cell membranes 3.
Cell membranes 4.
Pathways that harvest chemical energy 1.
Self Control Test

6th week:
Lecture: Pathways that harvest chemical energy 2.
Pathways that harvest chemical energy 3.
Pathways that harvest chemical energy 4.
Pathways that harvest chemical energy 5.

7th week:
Lecture: Pathways that harvest chemical energy 6.
Cell cycle and cell division 1.
Cell cycle and cell division 2.
Cell cycle and cell division 3.

8th week:
Lecture: Cell cycle and cell division 4.
Cell cycle and cell division 5.
Inheritance, genes and chromosomes 1.
Inheritance, genes and chromosomes 2.
Self Control Test
CHAPTER 10
9th week:
Lecture: Inheritance, genes and chromosomes 3.
Inheritance, genes and chromosomes 4.
Inheritance, genes and chromosomes 5.
Inheritance, genes and chromosomes 6.

10th week:
Lecture: DNA and it’s role in heredity 1.
DNA and it’s role in heredity 2.
DNA and it’s role in heredity 3.
From DNA to protein: gene expression 1.

11th week:
Lecture: From DNA to protein: Gene expression 2.
From DNA to protein: gene expression 3.
From DNA to protein: gene expression 4.
Gene mutation and molecular medicine 1.

12th week:
Lecture: Gene mutation and molecular medicine 2.
Gene mutation and molecular medicine 3.
Gene mutation and molecular medicine 4.
Gene mutation and molecular medicine 5.
Self Control Test

13th week:
Lecture: Regulation of gene expression 1.
Regulation of gene expression 2.
Regulation of gene expression 3.
The human genome, proteome

14th week:
Lecture: The mechanism of evolution 1.
The mechanism of evolution 2.
Cellular signaling and communication 1.
Cellular signaling and communication 2.

15th week:
Fungi: recyclers, pathogens, parasites 2
Differential gene expression in development 1.
Differential gene expression in development 2.
Self Control Test

Contact person: Dr. András Penyige; Department of Human genetics

Subject: INTRODUCTION TO BIOLOGY II.
Year, Semester: Basic Medicine Course, 2nd
Number of teaching hours:
Lecture: 45
Seminar: 30

1st week:
Lecture: Tissues, Organs and Organ Systems 1.
Tissues, Organs and Organ Systems 2.
Tissues, Organs and Organ Systems 3.
2nd week:
Lecture: Physiology, Homeostasis and Temperature Regulation.
Blood, a fluid tissue 1.
Blood, a fluid tissue 2.

3rd week:
Lecture: Circulatory systems 1.
Circulatory systems 2.
The human circulatory system 1.

4th week:
Lecture: The human circulatory system 2.
The lymphatic system.
Self Control Test

5th week:
Lecture: Natural Defenses against Disease 1.
Natural Defenses against Disease 2.
Natural Defenses against Disease 3.

6th week:
Lecture: Nutrition, Digestion and Absorption 1.
Nutrition, Digestion and Absorption 2.
Nutrition, Digestion and Absorption 3.

7th week:
Lecture: Nutrition, Digestion and Absorption 4.
Gas exchange in Animals.
-Human respiration.

8th week:
Lecture: Salt and Water Balance and Nitrogen Excretion 1.
Salt and Water Balance and Nitrogen Excretion 2.
Self Control Test

9th week:
Lecture: Hormones 1.
Hormones 2.
Hormones 3.

10th week:
Lecture: Hormones 4.
Hormones 5.
Neurons and Nervous system 1.

11th week:
Lecture: Neurons and Nervous system 2.
Neurons and Nervous system 3.
Neurons and Nervous system 4.

12th week:
Lecture: Neurons and Nervous system 5.
Sensory systems 1.
Sensory systems 2.

13th week:
Lecture: Self Control Test
Effectors: making Animals move 1.
CHAPTER 10

Effectors: making Animals move 2.

14th week:
Lecture: Effectors: making Animals move 3.
Animal reproduction and Animal Development 1.
Animal reproduction and Animal Development 2.

15th week:
The human Reproduction System and Sexual Behavior.
Self Control Test

Contact person: Dr. Norbert Szentandrássy, Department of Physiology

Subject: INTRODUCTION TO BIOPHYSICS I.
Year, Semester: Basic Medicine Course 1st
Number of teaching hours:
Lecture: 60
Seminar: 30

1st week:

2nd week:
Lecture: 3. Motion in one dimension, displacement, velocity, acceleration, motion diagrams.4. Freely falling objects.

3rd week:

4th week:
Self Control Test (First SCT (Chapters 1-3))

5th week:

6th week:

7th week:

8th week:
Self Control Test (2nd SCT, Chapters 5-7)

9th week:
ACADEMIC PROGRAM FOR THE BASIC MEDICINE COURSE

10th week:

11th week:
Self Control Test (3rd SCT, Chapters 7-9)

12th week:

13th week:

14th week:
Self Control Test (4th SCT, Chapters 10-13)

15th week:
Lecture: 29. Interactive seminar and preparation for ESE. 30. Interactive seminar and preparation for ESE.

Subject: INTRODUCTION TO BIOPHYSICS II.
Year, Semester: Basic Medicine Course 2nd
Number of teaching hours:
Lecture: 60
Seminar: 30

1st week:

2nd week:

3rd week:

4th week:
Self Control Test (1st SCT, Chapters 15-17)

5th week:

6th week:
mechanical model of the atom. Orbitals and quantum numbers. Quantum mechanics and atomic spectra.

4th week:

5th week:
Lecture: FIRST SELF CONTROL TEST. Chemical bonds: metallic, ionic and covalent bonds. Electron-dot structures for molecular compounds and polyatomic ions.

6th week:

7th week:

8th week:

9th week:
Lecture: SECOND SELF CONTROL TEST. Chemical equilibrium. The equilibrium constant. Factors that alter the composition of an equilibrium mixture.

10th week:

11th week:

12th week:

13th week:

14th week:

15th week:
Lecture: FOURTH SELF CONTROL TEST. Summary and discussion.

Subject: INTRODUCTION TO MEDICAL CHEMISTRY II.
Year, Semester: Basic Medicine Course 2nd
Number of teaching hours:
Lecture: 60
Seminar: 30
CHAPTER 10

1st week:

2nd week:

3rd week:
Lecture: Carbon and its inorganic compounds. Discussion of inorganic chemistry

4th week:
Lecture: FIFTH SELF CONTROL TEST. Covalent bonding in organic compounds. Alkanes.

5th week:

6th week:

7th week:
Lecture: Organic halogen compounds. Alcohols and phenols.

8th week:
Lecture: SIXTH SELF CONTROL TEST. Ethers and organic sulfur compounds.

9th week:
Lecture: Aldehydes, ketones and quinones.

10th week:

11th week:

12th week:

13th week:

14th week:

15th week:
Lecture: EIGHTH SELF CONTROL TEST. Summary and discussion.

Contact person: Dr. Ilona Farkas, Department of Medical Chemistry

Recommended books:
McMurry, Fay: Chemistry (6th edition)
Erdődi, Csortos: Organic chemistry for premedical students (2010)
Subject: HUNGARIAN LANGUAGE FOR BMC STUDENTS
Year, Semester: Basic Medicine Course 2nd
Number of teaching hours:
Practical: 36

1st week:
Practical: Introduction, The Hungarian alphabet, Vowel harmony; Ki vagy?

2nd week:
Practical: Köszönések. Personal pronouns, Conjugation of the verb "lenni".

3rd week:

4th week:
Practical: Hogy vagy? Word formation with "-ul, -ül".

5th week:

6th week:
Self-Control Test

7th week:
Practical: Mit kérsz? Informal you "őn/maga". Object of the sentence. (Optional: 13. leckéből a Zöldségboltban c. dialógus, zöldségek, gyümölcsök neve)

8th week:

9th week:
Practical: Tud/akar/szeret/szeretne gitározni. Infinitive. (Optional: Milyen idő van ma?)

10th week:
Practical: Postán, vasútállomáson; Tetszik a ruhád;

11th week:
Practical: Az emberi test Milyen szeme van? Revision

12th week:

Academic advisor: László Répás, Department of Foreign Languages
Recommended books: Marschalkó, Gabriella: Hungarolingua Basic Level 1. (2011)
CHAPTER 11

ACADEMIC PROGRAM FOR THE INTENSIVE BASIC MEDICINE COURSE

Intensive Basic Medicine Course (Intensive BMC, Premedical Studies)
Duration of studies: 1 semester

The six-month intensive premedical Basic Medicine Course is recommended to those students who do not have thorough knowledge in Biology, Physics and Chemistry from high school. The requirements of these condensed premedical science subjects are very rigorous, thus preparation prior to the beginning the General Medicine, Dentistry or Pharmacy Program is recommended. Students successfully completing the course are directly admitted to their chosen program. The Intensive Basic Medicine Course starts in January.

Class Behavior
Students should not use cell phones to talk or text during class. Cell phones must be switched off or kept in silence mode during class. In seminars, students will be expected to participate in seminar discussions. Students are encouraged to ask questions related to the topic of the lectures discussed, and participate in solving problems related to the topic of the seminar. Some professors will ask for students to volunteer information, but some professors call on students randomly. It is, thus, a good idea to come to class prepared so as not to be embarrassed in front of the class. Students should not disrupt the class by talking to each other. If one continues to disrupt the class, the student may be asked to leave. The usage of electronic devices, textbooks and any form of interaction between students during the tests is strictly forbidden. Electronic devices (cell phones, tablets, dictionaries, etc.), except for approved simple calculators, must not be within the reach (in pocket, in the desk, etc.) of students during tests. It is the students' responsibility to stow these items before the test begins without specific warning by the supervising teachers. Violation of these above mentioned regulations results in an immediate and unconditional dismissal from the program.

Requirements
The course consists of lectures and seminars. Attending lectures is strongly recommended, attendance of seminars is compulsory and recorded. Everyone must attend the seminars with the group designated by the Registrar’s Office.

Absence can significantly affect your understanding and can have serious implications for progression in your studies. One might have a maximum of six seminar absences to have the opportunity to get exemption. Students missing 7-8 seminars cannot be exempted from the Final Examination (FE), regardless of their score reached on the Self Control Tests. Students omitting 9 or more seminars are dismissed from the course. Missed seminars cannot be made up unless one obtains prior permission to be absent.

The knowledge of the students will be tested 6 times during the entire course using a written test system by Self Control Tests (SCT). The course ends with a Final Exam (FE) from the whole material of the course and a minimum of four FE dates will be set during the summer examination period. Unsuccessful students may repeat the FE twice (B and C chances, and the latter ends up with an oral examination part). Exam exemption and bonus point policy are used to improve the students’ performance on SCTs. Exact details of these policies will be described below.

Exemption from FE is offered for students who achieve excellent academic performance during their studies under the following circumstances:
- the average score of the five best SCTs (out of 6) is at least 65%, AND
- passed all the SCTs with at least 40%, AND
- (s)he has a maximum of 6 seminar absences for a given subject.

Bonus points will be added to the FE score of eligible students and calculated as follows:

<table>
<thead>
<tr>
<th>The average of the best 5 SCTs</th>
<th>Bonus points</th>
</tr>
</thead>
<tbody>
<tr>
<td>51-52</td>
<td>1</td>
</tr>
<tr>
<td>53-55</td>
<td>3</td>
</tr>
<tr>
<td>56-58</td>
<td>5</td>
</tr>
<tr>
<td>59-61</td>
<td>7</td>
</tr>
<tr>
<td>62-64</td>
<td>9</td>
</tr>
</tbody>
</table>
Students who could not meet the above described conditions for exemption must sit for the FE from the whole material of the course.
The participation shall be preceded by ID confirmation (i.e. student’s card, passport or driving license) before all forms of tests. Self Control Tests, End of Semester Exams, and Final Exams will be assessed as follows.

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 54.99:</td>
<td>fail (1)</td>
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<tr>
<td>55.00 - 64.99:</td>
<td>pass (2)</td>
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<tr>
<td>65.00 - 74.99:</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>75.00 - 84.99:</td>
<td>good (4)</td>
</tr>
<tr>
<td>85.00 - 100:</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Absence for any reason counts as 0%.

Course coordinator: Dr. Beáta Lontay, Department of Medical Chemistry

Subject: INTRODUCTION TO BIOLOGY
Year, Semester: Intensive Basic Medicine Course
Number of teaching hours:
Lecture: 96
Seminar: 96

1st week:
Lecture: The chemistry of life 1.
The chemistry of life 2.
Proteins, carbohydrates and lipids 1.
Proteins, carbohydrates and lipids 2.

2nd week:
Lecture: Proteins, carbohydrates and lipids 3.
Proteins, carbohydrates and lipids 4.

3rd week:
Nucleic acids and the origin of life 2.
Cells: the working units of life 1.
Cells: the working units of life 2.

4th week:
Lecture: Cells: the working units of life 3.
Cells: the working units of life 4.
Cell membranes 1.
Cell membranes 2.

5th week:
Lecture: Cell membranes 3.
Cell membranes 4.
Energy, enzymes and metabolism 1.
Energy, enzymes and metabolism 2.
Self Control Test

6th week:
Lecture: Pathways that harvest chemical energy 1.
Pathways that harvest chemical energy 2.
Pathways that harvest chemical energy 3.
The cell cycle and cell division 1.
7th week:
Lecture: The cell cycle and cell division 2.
The cell cycle and cell division 3.
Inheritance, genes and chromosomes 1.
Inheritance, genes and chromosomes 2.

8th week:
Lecture: Inheritance, genes and chromosomes 3.
Inheritance, genes and chromosomes 4.
DNA and its role in heredity 1.
DNA and its role in heredity 2.
Self Control Test

9th week:
Lecture: DNA and its role in heredity 3.
DNA and its role in heredity 4.
From DNA to protein: gene expression 1.
From DNA to protein: gene expression 2.

10th week:
Lecture: From DNA to protein: gene expression 3.
From DNA to protein: gene expression 4.
Regulation of gene expression 1.
Regulation of gene expression 2.

11th week:
Lecture: Gene mutation and molecular medicine 1.
Gene mutation and molecular medicine 2.
Gene mutation and molecular medicine 3.
Gene mutation and molecular medicine 4.

12th week:
Lecture: The cellular signaling and communication 1.
The cellular signaling and communication 2.
The mechanism of evolution 1.
The mechanism of evolution 2.

13th week:
Fungi: recyclers, pathogens, parasites 2.
Differential gene expression in development 1.
Differential gene expression in development 2.
Self Control Test

14th week:
Lecture: Tissues, organs and organ systems

15th week:
Lecture: Physiology, Homeostasis and Temperature Regulation
Blood, a fluid tissue.

16th week:
Lecture: Circulatory systems
The human circulatory system.

17th week:
Lecture: The human circulatory system.
Immunology: gene expression and natural defenses.
Self Control Test

18th week:
Lecture: Immunology: gene expression and natural defenses.
Nutrition, Digestion and Absorption.

19th week:
Lecture: Energy balance, vitamins and minerals
Gas exchange in Animals.

20th week:
Lecture: Salt and Water Balance Nitrogen Excretion.
Hormones

21st week:
Lecture: Neurons and Nervous system.
Self Control Test

22nd week:
Lecture: Neurons and Nervous system.
Sensory systems

23rd week:
Lecture: Effectors: How animals get things done.

24th week:
Lecture: Animal reproduction and Animal Development
The human reproduction system.
Self Control Test

Academic advisors: Dr. András Penyige, Department of Human Genetics
Dr. Norbert Szentandrássy, Department of Physiology

Subject: INTRODUCTION TO BIOPHYSICS
Year, Semester: Intensive Basic Medicine Course
Number of teaching hours:
Lecture: 96
Seminar: 144

1st week:

2nd week:

3rd week:
Self Control Test

4th week:
CHAPTER 11

5th week:

6th week:

7th week:

8th week:

9th week:

10th week:

11th week:

12th week:

13th week:
Lecture: 25. Doppler effect. The ear and the principles of hearing.

14th week:

15th week:

16th week:

17th week:
18th week:
Self Control Test

19th week:

20th week:

21st week:
Self Control Test

22nd week:

23rd week:
Lecture: 44-45. Wave optics. Conditions for interference, polarization of light. Diffraction. The camera, the simple magnifier, the compound microscope, the telescope and the eye.

24th week:

Academic advisor: Dr. Attila Jenei, Department of Biophysics and Cell Biology
Recommended book: Serway, Vuille: College Physics (9th edition)

Subject: INTRODUCTION TO MEDICAL CHEMISTRY
Year, Semester: Intensive Basic Medicine Course  
Number of teaching hours:  
Lecture: 96  
Seminar: 96

1st week:

2nd week:

3rd week:
CHAPTER 11

4th week:
Lecture: 7-8. The sizes of atoms and ions. Ionization energy, electron affinity.
Self Control Test (1st SCT)

5th week:

6th week:

7th week:

8th week:

9th week:
Lecture: 17-18. Chemical equilibrium. The equilibrium constant. Factors that alter the composition of an equilibrium mixture. Self Control Test (2nd SCT)

10th week:

11th week:

12th week:

13th week:

14th week:

15th week:

16th week:

17th week:
Lecture: 33-34. Ethers and organic sulfur compounds. Self Control Test (4th SCT)

18th week:
19\textsuperscript{th} week:

20\textsuperscript{th} week:
\textbf{Lecture}: 39-40. Carboxylic acids: classification and nomenclature. Self Control Test (5th SCT)

21\textsuperscript{st} week:

22\textsuperscript{nd} week:

23\textsuperscript{rd} week:

24\textsuperscript{th} week:
\textbf{Lecture}: Self Control Test (6th SCT). Summary and discussion

Academic Advisor: Dr. Éva Bakó, Department of Medical Chemistry

Recommended books: McMurry, Fay: Chemistry (6\textsuperscript{th} edition)
Erdődi, Csortos: Organic chemistry for premedical students (2010)
The introduction of the credit system became compulsory in every Hungarian university, including the University of Debrecen by September, 2003. The aim of the credit system is to ensure that the students’ achievements can be properly and objectively evaluated both quantitatively and qualitatively.

A credit is a relative index of cumulative work invested in a compulsory, a required elective or a freely chosen subject listed in the curriculum. The credit value of a course is based upon the number of lectures, seminars and practical classes of the given subject that should be attended or participated in (so called “contact hours”), and upon the amount of work required for studying and preparing for the examination(s). Together with the credit(s) assigned to a particular subject (quantitative index), students are given grades (qualitative index) on passing an exam/course/class. The credit system that has been introduced in Hungary meets the standards of the European Credit Transfer System (ECTS). The introduction of the ECTS promotes student mobility and facilitates more effective organization of students' exchange programs aimed at further education in foreign institutions, and allows recognition of the students' work, studies and achievements completed in various foreign departments by the mother institution. Credit-based training is flexible. It provides a wider range of choice, enables the students to make progress at an individual pace, and it also offers students a chance to study the compulsory or required subjects at a different university, even abroad. Owing to the flexible credit accumulation system, the term "repetition of a year" does not make sense any longer. It should be noted, however, that students do not enjoy perfect freedom in the credit system either, as the system does not allow students to randomly include subjects in their curriculum or mix modules. Since knowledge is based on previous studies, it is imperative that the departments clearly and thoroughly lay down the requirements to be met before students start studying a subject.

The general principles of the credit system are the following:

1. Students can be given their degree if, having met other criteria as well, they have collected 300 credits during their studies. Considering the recommended curriculum, this can be achieved in five years.

2. According to the credit regulations, students should obtain an average of 30 credits in each semester.

3. The criterion of obtaining 1 credit is to spend 30 hours (including both contact and non-contact hours) studying the given subject.

4. Credit(s) can only be obtained if students pass the exam of the given subject.

5. Students accumulate the required amount of credits by passing exams on compulsory, required elective and freely chosen subjects. Completion of every single compulsory credit course is one of the essential prerequisites of getting a degree. Courses belonging to the required elective courses are closely related to the basic subjects, but the information provided here is more detailed, and includes material not dealt with in the frame of the compulsory courses. Students do not need to take all required elective courses, but they should select some of them wisely to accumulate the predetermined amount of credits from this pool. Finally, a certain amount of credits should be obtained by selecting from the freely chosen courses, which are usually not related to the basic (and thus mandatory) subjects, but they offer a different type of knowledge.

6. 80, 15 and 5 percent of the total of 300 credits should be accumulated by completing the compulsory, required elective and freely chosen courses, respectively.

7. According to the qualification requirements, professional (compulsory and required elective) courses fall into three modules. The basic module provides the theoretical basis of medicine, and ensures that the necessary practical skills are developed. The preclinical module lays down the foundations of clinical knowledge, while in the clinical module the students are taught clinical medicine, and they attend practical classes to ensure proper command of the medical procedures. The credits accumulated in the different modules for compulsory and required courses should show the following distribution: basic module: 80-100, preclinical module: 45-59, clinical module: 25-31, and dental clinical module 90-100 credits.

8. The pilot curricula show the recommended pacing of compulsory courses. If these courses are carefully supplemented with credits obtained from the necessary number of required elective and freely chosen courses, students...
can successfully accumulate the credits required for their degree within 10 semesters.

9. In the case of two-semester subjects, when students have to pass a final exam, they get higher credits in the semester of the final examination since preparation for a final examination takes up more non-contact hours from the students' time.

10. There are 12 compulsory final examinations in the curriculum; therefore one final exam is worth at least 10 credits.

11. The diploma work is worth 20 credits.

12. Regulations concerning the training of students in the credit system prescribe a minimum amount of credits for certain periods as outlined in the Rules and Regulations for English Program Students.

13. Although Physical Education and Summer Internship are not recognized by credits, they have to be completed to get the final degree (see the rules outlined in the Information section about the conditions).

14. Evaluation of the students' achievements needed for grants or applications is described in the Rules and Regulations for English Program Students.

15. Further information is available in the Rules and Regulations for English Program Students.

We very much hope that this system of training will contribute to the successful completion of your studies. We wish you good luck with your university studies.

The model curriculum on the following pages applies to those students who started their studies on the Dentistry Program in the Academic Year 2015/2016. For the previous years' curricula please visit our website: www.edu.unideb.hu
## Compulsory courses

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<tr>
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### Compulsory Courses

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### Compulsory courses

#### 4. year (continued)

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### Required elective courses

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### CHAPTER 12

#### Required elective courses

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<td>Medical Anthropology</td>
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<tr>
<td>Medical Sociology</td>
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<tr>
<td>Molecular Mechanism of Diseases Concerning Great Populations</td>
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<tr>
<td>Oralpathologic cases demonstration</td>
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<td>4-hand Treatment</td>
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<td>Radiotherapy in the clinical practice</td>
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SUMMER PRACTICE

CHAPTER 13
SUMMER PRACTICE

Summer chairside practice for 1\textsuperscript{st} and 2\textsuperscript{nd} year dental student

Objectives of the practice: to get acquainted with the tasks of the dental nurse
- Parts of the dental surgery, methods of cleaning up the surgery.
- The dental unit. Cleaning and disinfecting the unit.
- The tasks of the dental nurse.
- Instruments and materials used in dental treatment.
- Instruments used by the dental nurse.
- Cleaning, disinfecting and maintaining the instruments.
- Preparing the instruments and materials before dental treatment.
- The task of the dental nurse during treatment.
- Administrative tasks.

The practice can be fulfilled either after the 1\textsuperscript{st} or after the 2\textsuperscript{nd} year in any dental surgery in Hungary or abroad. A certificate about fulfilling the practice is necessary, signed by the summer-practice tutor.

Summer practice for 3\textsuperscript{rd} year students

- Taking anamnesis
- Patient examination
- Inspection
- Palpation
- Percussion
- Taking status
- Performance of infiltration and nerve block anaesthesia
- Simple tooth-removal
- Post extraction advices
- Taking out the sutures
- Postoperative treatment of intraoral wounds

Complex summer practice for 4\textsuperscript{th} year dental students

Prerequisites:
Cariology I
Endodontics I
Prothetic dentistry I
Prosthetic dentistry II
Oral surgery I
Oral surgery II

Aim of practice: to practice basic dental treatments according to the patient’s needs.
- Anamnestic data
- Patient examination
- Inspection
- Palpation
- Percussion
- Dental status
- Diagnosis
- Treatment plan
- Carry out basic treatment procedures
- Local anaesthesia
- Theoretical knowledge and manual abilities in the fields of conservative dentistry and endodotics
- Theoretical fields of crown- and bridgework, indications and contraindications, improving manual abilities; Total and partial dentures: theory and practice, indications and contraindications, clinical and laboratory phases
- Basics in gnatology: anatomy of the TMJ, theoretical and practical aspects of the pathology of the TMJ
- Basics in dental technology
# Chapter 14

## Academic Program for the 1st Year

**Department of Behavioural Sciences, Faculty of Public Health**

Subject: **Medical Psychology I.**

Year, Semester: 1\textsuperscript{st} year/1\textsuperscript{st} semester

Number of teaching hours:

Lecture: 20

### 1\textsuperscript{st} Week:

**Lecture:** Behavioural sciences: fields and their role in professional socialization of medical students.

Psychology - area, main theories and their relevance to health issues.

### 2\textsuperscript{nd} Week:

**Lecture:** Person perception and its typical errors.

Communication: human ethological foundations.

### 3\textsuperscript{rd} Week:

**Lecture:** Channels, messages and feed-back processes of face-to-face inter-personal interactions. Empathy: its analysis, appearances, levels; its relation to burnout phenomena.

### 4\textsuperscript{th} Week:

**Lecture:** Emotions: basic emotions and their psycho-physiological concomitants.


### 5\textsuperscript{th} Week:

**Lecture:** Competence as an independent motive: origin of the concept, appearance in medical students.

Motivation: Maslow's hierarchical model, social penetrance; attachment: theory and pathology.

### 6\textsuperscript{th} Week:

**Lecture:** Learning: the field. The inborn-acquired controversies and their outcome.

Memory, as a process: characteristics, organization, the "eyewitness effect"; forgetting, motivated forgetting.

### 7\textsuperscript{th} Week:

**Lecture:** Personality development and its critical periods, environmental effects: a complex view of socialization. E. Erikson's psychosocial theory. Personality: a concise summary of personality theories.

### 8\textsuperscript{th} Week:

**Lecture:** Persons in relations: group processes, group development and its phases, group cohesion and its sinister effects, 'group thinking' and its appearances in medical decisions. Introducing dynamic psychological schools and their health related relevance. Key concepts; defence mechanisms; transference and counter transference.

### 9\textsuperscript{th} Week:

**Lecture:** A review of behaviourism; conditioning and learning; social learning theories. Humanistic psychology: the 'third force' and its main figures. Carl Rogers.

### 10\textsuperscript{th} Week:

**Lecture:** The so called 'eclectic schools' and their importance in prevention/treatment/care processes. Summative review.

## Requirements

Medical psychology course objectives: The aim of the course is to familiarize the students with the most important psychological aspects of health and illness, the psychological characteristic of medical profession as well as the healing/caring process. The main schools of psychology are also introduced. The course is ment to give basic knowledge for the purpose of understanding the phenomena of motivation, memory, socialization as far as they are relevant for future medical doctors. This means the first steps toward more specialised courses like medical psychology and behavioural medicine as well as electives to be introduced in the third and fourth academic years.

First year students should pass “End of Semester Examination” (ESE) at the end of the semester. The Department of Behavioural Sciences will adhere to the requirements of the General Academic Regulations and Rules of Examinations. The student must be present at the examination at the designated time. (He/she must explain the reason for any absence from the examination to the Departmental Adviser within 1 days of the day of examination.)
### Subject: **HUNGARIAN CRASH COURSE**

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

#### 1st week:

#### 2nd week:

### Requirements

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<td>9.00 - 10.30</td>
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<tr>
<td>10.30 - 11.00</td>
<td>break</td>
</tr>
<tr>
<td>11.00 - 12.30</td>
<td>language classes</td>
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**Assessment:** Five grade evaluation (AW5).  
**Evaluation:** Based on a written final test (80%) + class participation + daily word quizzes (20%). Passing the oral exam is a minimal requirement for the successful completion of the Hungarian Crash Course. The oral exam consists of a role-play randomly chosen from 7 situations announced in the beginning of the course. Further minimal requirement is the knowledge of 200 words announced at the beginning of the course.

**STUDENTS WHO DO NOT ATTEND THE HUNGARIAN CRASH COURSE DUE TO THEIR OWN FAULT OR FAIL THE ORAL EXAM HAVE TO TAKE AN EXTRA COURSE FOR AN ADDITIONAL FEE OF 500 USD DURING THE FIRST SEMESTER.**

### Subject: **HUNGARIAN LANGUAGE I/1.**  
**Year, Semester:** 1st year/1st semester  
**Number of teaching hours:** 24  
**Practical:** 24

#### 1st week:
**Practical:** Revision.

#### 2nd week:
**Practical:** Pretest

#### 3rd week:
**Practical:** Unit 1

#### 4th week:
**Practical:** Unit 2

#### 5th week:
**Practical:** Unit 2

#### 6th week:
**Practical:** Unit 3

#### 7th week:
**Practical:** Revision (Mid-term test)

#### 8th week:
**Practical:** Unit 4

#### 9th week:
**Practical:** Unit 5

#### 10th week:
**Practical:** Unit 5

#### 11th week:
**Practical:** Revision. End-term test
Requirements

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

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

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

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

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

Website: Audio files to the course book, oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: ilekt.med.unideb.hu.

Department of Medical Chemistry

Subject: MEDICAL CHEMISTRY
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 39
Seminar: 58
Practical: 39

1st week:
Practical: Laboratory safety instructions. Fire-regulations.

2nd week:
Practical: Laboratory techniques: laboratory equipments,

Chemical calculations. Concentration of solutions.

3rd week:

4th week:
Seminar: Thermochemistry and thermodynamics. Chemical kinetics.

5th week:

6th week:
Lecture: Saturated and unsaturated hydrocarbons. Aromatic hydrocarbons.
Seminar: Saturated and unsaturated hydrocarbons. Aromatic hydrocarbons.

Self Control Test

7th week:
Lecture: Alcohols and phenols. Organic halogen compounds.
Seminar: Alcohols and phenols. Organic halogen compounds.

8th week:
Lecture: Aldehydes and ketones and quinones. Ethers. Organic sulfur compounds. Nitrogen containing compounds
Seminar: Aldehydes and ketones and quinones. Ethers. Organic sulfur compounds. Nitrogen containing compounds

9th week:
Lecture: Carboxylic acids and carboxylic acid derivatives. Amino acids and peptides
Seminar: Carboxylic acids and carboxylic acid derivatives. Amino acids and peptides

10th week:
Lecture: Proteins (Structure, function and regulation) Enzymes and enzyme regulation
Seminar: Proteins (Structure, function and regulation) Enzymes and enzyme regulation

11th week:
Lecture: Carbohydrates. Glycolytic pathway and tricarboxylic acid cycle Regulation of metabolic pathways
Seminar: Carbohydrates. Glycolytic pathway and tricarboxylic acid cycle Regulation of metabolic pathways

Self Control Test

12th week:
Lecture: Lipids Nucleotides and nucleic acids
Seminar: Lipids Nucleotides and nucleic acids

13th week:
Lecture: Genes and chromatine. Coordination chemistry. Function and transport of alkaline and alkaline earth metal cations
Seminar: Genes and chromatine. Coordination chemistry. Function and transport of alkaline and alkaline earth metal cations
Practical: Analysis of inorganic salts and complexes.
CHAPTER 14

Complexometric titrations. Photometric determination of iron. Dent. Practical exam

14th week:
Lecture: Transition metals: iron, copper, zinc. No lecture

15th week:
Lecture: No lectures
Self Control Test

Requirements

The program consists of lectures, seminars and laboratory practices. Attendance at laboratory practices and seminars is recorded. Students should attend at least 80% of seminars and 100% of laboratory practices. Missed and not accepted practices can be made up by the students on the same week or the next week (if the missed lab is still running and the laboratory teacher permits). If the student fails the practical examination (on week 15), (s)he cannot get exemption from the written part of final examination and her/his final exam will also cover the laboratory practices.

Three control tests (general chemistry; organic chemistry; bioorganic and bioinorganic chemistry) covering the topics of lectures and seminars will be written during the semester. Preparation for the tests and exams should be based on the official textbooks, lectures and seminars.

Control tests and final exams will be assessed as follows*:

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-56</td>
<td>fail (1)</td>
</tr>
<tr>
<td>57-65</td>
<td>pass (2)</td>
</tr>
<tr>
<td>66-75</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>76-84</td>
<td>good (4)</td>
</tr>
<tr>
<td>85-100</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

*Percentage values may slightly vary depending on the actual number of questions in the tests/exams.

The final exam consists of a written exam and an oral examination. The written test is composed of multiple choice questions arranged into three modules: general chemistry; organic chemistry; bioorganic and bioinorganic chemistry. The student may get exemption from any module(s) of the final written exam in case (s)he successfully completed the control tests of the corresponding module. Results of control tests and exam modules can be carried to B or C chance exams. The student can only pass the written part of the exam if the result of all three modules is at least "pass (2)". The second part of the final exam is an oral exam covering all three modules. Only students who passed the written exam qualify to sit the oral exam.

Students who have successfully passed the exam but want to improve their mark are allowed to take one improvement exam.

In case the students take the exam in the second semester at the end of an exam course, then all three modules of the exam must be taken and results of previous control tests or exam modules cannot be considered.

Department of Restorative Dentistry

Subject: ODONTOLOGY
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 30

1st week:
Practical: Labour health regulations. Introduction to the practical classes. Description of modeling materials and tools. Demonstration of the lecture's theme on skulls, dentures and teeth.

2nd week:
Lecture: Dental symbolic systems. Losses of the teeth (attrition, abrasion and erosion)
Practical: Carving of upper central permanent incisor from chalk.

3rd week:
Practical: Carving of lower central permanent incisor from chalk.

4th week:
Lecture: Development of teeth.
Practical: Carving of upper lateral permanent incisor from wax.

5th week:
Lecture: Eruption of teeth.
Practical: Written test.
6th week:
Lecture: The permanent maxillary incisors.
Practical: Modelling of upper central and lateral permanent incisors from plasticine.

7th week:
Lecture: The permanent mandibular incisors. The permanent canines.
Practical: Carving of upper permanent canince from chalk.

8th week:
Lecture: The maxillary and mandibular premolars.
Practical: Modelling of lower permanent 2nd incisor and canine from plasticine.

9th week:
Lecture: The permanent maxillary molars.
Practical: Modelling of upper 1st and 2nd premolar from plasticine.

10th week:
Lecture: The permanent mandibular molars.
Practical: Carving of lower 1st premolar from chalk.

11th week:
Lecture: The deciduous teeth.
Practical: Carving of upper permanent 1st molar crown from wax. Modelling of upper 2nd permanent molar from plasticine.

12th week:
Lecture: The enamel.
Practical: Modelling of lower permanent 1st molar from plasticine.

13th week:
Lecture: The dentin.
Practical: The written test.

14th week:
Lecture: The pulp.
Practical: Modelling of lower 1st primary 1st molar from plasticine. Practice of tooth identification with extracted teeth.

15th week:
Lecture: The periodontium.
Practical: Modelling of upper 1st primary molar from plasticine. Practice of tooth identification with extracted teeth.

Requirements

Requirements for signing the lecture book:
The practices start and finish in accordance with the timetable, arriving late is not allowed.
Students are required to stay at the premises of the practial from the beginning to the end of the class and participate actively in the practical work.
Missed classes cannot be more than 2 out of the total practice classes.
A certification is required for any absences which has to be handed to the leader of the practice course.
Missed classes cannot be made up for.
At the end of each practical, students work are evaluated with a grade.
During the semester, in accordance with the course requirements there are 2 written tests. Any missed tests result in a fail (1) grade.
The results of the 2 written tests and the practice grades impact on the outcome of the semester exam.
Examination: at the end of the mid Semester.
Requirements for taking the subject:---

Division of Biomathematics

Subject: BIOSTATISTICS
Year, Semester: 1st year/1st semester
Number of teaching hours:
Seminar: 28

1st week:
Lecture: 1. Introduction, random variables, qualitative variables, quantitative variables, discrete and continuous random variables 2. Counting techniques (permutations and combination), set theory, definition and properties of probability, conditional probability, Bayes’s theorem
CHAPTER 14

2nd week:
Lecture: 3. Descriptive statistics, ordered array, frequency distribution, cumulative frequency distribution, histogram mean, median, mode, range, variance
Seminar: Material related to lecture 1.

3rd week:
Lecture: 4. Probability distributions (discrete, continuous), Binomial and Poisson distributions
Seminar: Material related to lecture 2.

4th week:
Lecture: 5. Normal distribution, standard normal distribution, problems for normal and standard normal distributions
Seminar: Material related to lecture 3.

5th week:
Lecture: 6. Sampling, sampling distributions (special focus on SEM and the central limit theorem).
Seminar: Material related to lecture 4.

6th week:
Lecture: 7. Hypothesis testing, type I and type II errors
Seminar: Material related to lecture 5.

8th week:
Lecture: 8. Statistical tests (z, t and F tests)
Seminar: Material related to lecture 6.

9th week:
Seminar: Material related to lecture 7.

10th week:
Lecture: 10. Summary
Seminar: Material related to lecture 8.

11th week:
Seminar: Material related to lecture 9.

Requirements

Aim of the course
The aim of the subject is to give an introduction to biostatistical methods, which can be used in different branches of medicine to solve biostatistical problems and to evaluate experimental results. In addition to providing a solid theoretical foundation the course will also introduce the students to the art and science of performing the simplest calculations.

Short description of the course
Brief introduction to the most basic concepts of calculus (slope, fitting, area under the curve); counting techniques; descriptive statistics; algebra of events; probability; random variables; statistical distributions and their properties; binomial, Poisson and normal distributions; sampling techniques and characterization of samples; statistical test (z, t, F and chi2 tests)

Attendance
Conditions for signing the lecture book
Signing of the lecture book is denied if there are more than 2 absences from groupwise seminars.

Self control test
Students will write a grade-offering course test between weeks 12-14. The structure of this test will be identical to that of the final exam.

Exam
Students will write a grade-offering course test between weeks 12-14. The structure of this test will be identical to that of the final exam.

Final grade
Wayne W. Daniel: Biostatistics, A foundation for Analysis in the Health Sciences, John Wiley&Sons

Exemptions
Requests for exemptions from the biostatistics course have to be turned in to the Credit Transfer Committee. Such requests cannot be directly turned in to the Biomathematics Division or the Department of Biophysics
Information for repeaters

Credits achieved in a semester cannot be transferred to other semesters. Therefore, students repeating the course are subject to the same rules and requirements as those taking the course for the first time.

Rules for calculator

Rules for calculator usage during course tests and the final examination. In order to ensure a fair evaluation, to avoid disturbances in the testing room, and to protect the security of the test material the following types of calculators are NOT permitted: - calculators with built-in computer algebra systems (capable of simplifying algebraic expressions) - pocket organizers, handheld or laptop computers - any device capable of storing text.

Calculators with a typewriter keypad (so-called QWERTY devices), electronic writing pads and pen-input devices are not allowed either. Calculators with letters on the keys (e.g. for entering hexadecimal numbers or variable names) are permitted as long as the keys are not arranged in QWERTY format. - calculators or other devices capable of communicating with other devices - calculators built into wireless phones - calculators with paper tape or models that make noise. In general, students may use any four-function, scientific or graphing calculator except as specified above. Sharing calculators during tests is not allowed, and the test proctor will not provide a calculator.

Division of Biophysics

Subject: BIOPHYSICS
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 26
Seminar: 26
Practical: 16

1st week:
Seminar: Introduction

2nd week:
Seminar: Material related to Lectures 1 and 2.
Practical: Week 2-11: Practicals in rotation system. Labs to be performed: (1) Measurement of diffusion constant; (2) Microscopy; (3) Computer tomography and blood pressure measurement; (4) Measurement with a Geiger-Müller counter. Attenuation of nuclear radiation. For detailed information (timetable, protocols, requirements, etc.) see the web page of the Department.

3rd week:
Seminar: Material related to lectures 3 and 4.
Practical: Practicals in rotation system

4th week:
Seminar: Material related to lectures 5-6.
Practical: Practicals in rotation system

5th week:
Seminar: Material related to lectures 7 and 8.
Practical: Practicals in rotation system
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6th week:
Seminar: Material related to lectures 9-10.
Practical: Practicals in rotation system

7th week:
Seminar: Material related to lectures 11 and 12.
Practical: Practicals in rotation system
Self Control Test

8th week:
Seminar: Material related to lectures 13 and 14.
Practical: Practicals in rotation system

9th week:
Seminar: Material related to lectures 15 and 16.
Practical: Practicals in rotation system

10th week:
Seminar: Material related to lectures 17 and 18.

11th week:
Lecture: 21. The physical background of ECG and EEG. 22. Biomechanics
Seminar: Material related to lectures 19 and 20.

12th week:
Seminar: Material related to lectures 21 and 22.
Practical: Spare lab.
Self Control Test

13th week:
Seminar: Material related to lectures 23 and 24.
Practical: Practical exam.

14th week:
Practical: Practical exam.

Requirements

Aim of the course: To provide the necessary theoretical and practical background for the understanding the physical principles applied in biology and medicine, and for the description of the physical processes in living organisms.
To introduce the biophysical techniques in order to (1) understand the pathomechanism of diseases (2) develop of novel therapeutic approaches (3) develop of novel diagnostic tools: e.g. ECG, MRI, PET (4) understand the operation of cells, tissues and organs at the molecular level (5) provide a solid background for Physiology, Clinical Physiology, Radiology

Short description of the course: Students will be introduced to the quantitative description of the physical basis of selected topics in biology and medicine. Structure of the course: (1) Introduction to natural sciences (e.g. basic principles of atomic and nuclear physics) (2) Medical physics (e.g. physical principles of diagnostic and therapeutic procedures) (3) Molecular biophysics (e.g. diffusion, membrane biophysics) (4) Organ biophysics (e.g. vision, hearing, circulation)

Educational material published on the web page of the Department.

Requirements
1. Lectures: Attendance to lectures is emphatically recommended. All material covered in lectures is an integral part of the subject and therefore included in the self-control tests and the final exam. Some new concepts and ideas are discussed in the lectures only and are not present in the textbook.
2. Seminars: Attendance to seminars is compulsory, however, a student may miss maximum 7 (seven) seminars. Students may attend the seminars according to their group assignment only. In the seminars, students are encouraged to ask questions related to the topic of the lectures discussed (see timetable of lectures and seminars). Besides, students may prepare short presentations (7-15 minutes) about the topic of the seminars (max. 2 students/seminar). The topic list for short presentations is posted to the web page of the Department. The talks are graded on a scale of 0-3. This grade counts toward the bonus points earned during the semester. Students obtaining less than 3 points for the presentation
may prepare an additional one (in the student’s own group) given that spots are still available. In this case the better score is considered for bonus points (the two presentations are not cumulative). To get the maximum 3 points for the presentation the followings must be fulfilled:

- keeping the allocated time (min. 7, max. 15 min);
- good quality of the figures (axis labels, color combinations, appropriate resolution);
- teaching merit of the presentation (too many slides without proper explanation is not accepted here).

The presenting student must show up at the beginning of the class to allow time for file uploading and technical arrangements; students arriving late may be denied of the chance to present their work.

3. Practicals: Attendance to labs is mandatory. Labs missed (a maximum of 2 is allowed) with acceptable excuse can be completed during the spare practical on week 12 with a written permission (recorded in the lab logbook) of the manager of education (permission is given during the office hours only). Students may attend the practicals according to their group assignment only. For the practicals a separate logbook should be prepared which is graded at the end of the lab on a scale between 0-3. (Getting 0 means that the lab is not accepted and it has to be repeated.) However, the lab tutor may test the students’ preparation for the practical any time during the practical and – based on the result – might instruct the student to repeat the lab (scheduling is the same as for absences). At the end of the semester, the grades for your logs and your attitude during labs will be summed up as a Practical Grade (PG) on a scale of 0-3. Detailed requirements of the labs (reading for the labs, instructions for logbook preparation, details of the grading system, etc.) are posted on the webpage of the Department.

Practical exam (week 13 or 14): Students can take a lab exam during their regular lab class on week 13 or 14. It is not allowed to repeat the lab exam to improve the grade. The duration of the exam is approximately 30 minutes and students have to perform an experiment based on the semester work, assigned randomly. The examiner checks the record of the experiment and also may ask questions from the labs. The grading will be on a scale of 0-3 (PE grade) based on the record of the experiment, calculations/graphs (concept, work plan, clarity and punctuality are primary consideration) as well as oral performance.

Evaluation of the practical part:
PG+PE >=3 and PE >=0, practical part accepted, exempted from practical exam on the day of the Final Exam. (a practical exam with 0 points has to be repeated regardless of the practical grade)
1 < PG+PE < 3 practical part accepted, practical exam on the day of the Final Exam.
PG+PE <=1, practical part is not accepted, the semester is not accepted.

For students who were exempted from attending the practicals, but have to take the lab exam, the exam is evaluated as a pass or fail.

4. Exemptions In order to get full exemption from the biophysics course the student has to write an application to the Educational Office. The Department of Biophysics and Cell Biology does not accept such applications. Applications for exemptions from part of the courses are handled by the department. The deadline for such applications is Friday on the third week. No application will be considered after this date.

The following documents have to be submitted to the study adviser:
1. application with an explanation why the student thinks that he/she is eligible for an exemption;
2. certificates about the courses the student has taken;
3. a reliable description of the curriculum of the courses taken.
An application is rejected, accepted, or in most cases students applying for an exemption will be examined by the Biophysics Chairman before granting an exemption. Applicants will be notified whether they have to take such an examination. The deadline for taking such an exam is Friday on week 5.

5. Conditions for signing the lecture book
- 7 or fewer absences from seminars;
- All labs accepted, PG+PE > 1.

6. Self-control tests There will be 2 self-control tests (SCT) during the semester (week 7 and week 12). None of the SCTs are obligatory. The type of the questions will be similar to those on the final exam (FE). Each SCT will be graded (0-100 %, 0% for absence) and the results of the two SCTs will be averaged (Xave). The missed test is counted as 0% in the calculation of the average. Missed SCTs cannot be made up at a later time. Based on the written tests students may obtain the following bonus points and exceptions from the final exam:

   i) if Xave is at least 66 points, the student is exempted from part A of the biophysics final exam (see below);
   ii) according to Xave SCT bonus points earned to the FE are as follows:

<table>
<thead>
<tr>
<th>Xave</th>
<th>SCT bonus points</th>
<th>Xave</th>
<th>SCT bonus points</th>
<th>Xave</th>
<th>SCT bonus points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-34.99</td>
<td>0</td>
<td>50-54.99</td>
<td>6</td>
<td>70-74.99</td>
<td>10</td>
</tr>
<tr>
<td>40-44.99</td>
<td>4</td>
<td>60-64.99</td>
<td>8</td>
<td>80-100</td>
<td>12</td>
</tr>
<tr>
<td>45-49.99</td>
<td>5</td>
<td>65-69.99</td>
<td>9</td>
<td>if &gt;85</td>
<td>see point iii)</td>
</tr>
</tbody>
</table>

   iii) if Xave is at least 85 the student is eligible for a grade-offering oral exam conducted at the end of the semester,
CHAPTER 14

where – based on his/her performance – grades 4 or 5 can be offered.

If the student does not show up in the oral exam or his/her performance is not sufficient on the grade-offering exam, no grades are offered and the student should take the regular written FE during the exam period.

7. Final Examination (FE): Students have three chances (A,B,C) for passing the biophysics final exam in the winter exam period after the semester in which the course was taken.

The FE consists of 3 parts:

a. A written quiz of 20 minimum requirement questions. One must pass this part to have the written test (part c.) evaluated. Minimum requirement questions and the answers thereto are provided on the website of the Department (biophys.med.unideb.hu). Questions regarding the biophysics labs are not asked in the exam. 16 out of 20 have to be answered correctly in order to pass this part. Exemption from this part of the FE is discussed in 6. i). This part is evaluated as pass or fail, once passed it is valid for further exam chances (B or C chance) of the FE. The result of the minimum requirement questions are not counted into the result of the written test (part c. of the FE).

b. A practical exam similar to that explained in section 3. Those reaching PG+PE >=3 and PE >0 are exempted. Practical exam taken in the exam period is evaluated as pass or fail, independent of the practical grade (PG). The result of the practical exam is not counted into the result of the written exam (part c. of the FE). The result of a successful practical exam is valid for further exam chances (B or C chances).

c. A written exam (0-100 points) with essays, fill-in-the-missing-phrase type questions, relation analysis and various simple test and multiple-choice questions. This will only be evaluated if part a. and part b. are both passed. However, those failing part a. can still do the practical exam (part b.) on the day of the FE. The total bonus for the semester (SCT bonus points (max. 11) + seminar bonus points (max. 3)) will be added to the score of the written exam ONLY IF a minimum score of 45% is achieved in part c. of the FE. Additional exemptions are in point 6. iii)

Evaluation of the FE:
Grade is calculated based on the sum of written exam score + bonus points (see conditions for the bonus points above)

<table>
<thead>
<tr>
<th>Grade</th>
<th>written exam score + bonus points</th>
</tr>
</thead>
<tbody>
<tr>
<td>fail (1)</td>
<td>0 – 54.99</td>
</tr>
<tr>
<td>pass (2)</td>
<td>55 – 64.99</td>
</tr>
<tr>
<td>satisfactory (3)</td>
<td>65 – 74.99</td>
</tr>
<tr>
<td>good (4)</td>
<td>75 – 84.99</td>
</tr>
<tr>
<td>excellent (5)</td>
<td>85 –</td>
</tr>
</tbody>
</table>

Dates, sites and detailed instructions for SCTs and the FE will be announced on the notice board of the Department of Biophysics and Cell Biology and on the educational web site (biophys.med.unideb.hu).

8. Rules for the usage of calculators during self-control tests and the final examination In order to ensure a fair evaluation, to avoid disturbances in the testing room, and to protect the security of the test material the following types of calculators are NOT permitted:
- calculators with built-in computer algebra systems (capable of simplifying algebraic expressions)
- pocket organizers, handheld or laptop computers
- any device capable of storing text. Calculators with a typewriter keypad (so-called QWERTY devices), electronic writing pads and pen-input devices are not allowed either. Calculators with letters on the keys (e.g. for entering hexadecimal numbers or variable names) are permitted as long as the keys are not arranged in QWERTY format.
- Calculators or other devices capable of communicating with other devices
- Calculators built into wireless phones
- Calculators with paper tape or models that make noise

In general, students may use any four-function, scientific or graphing calculator except as specified above. However, we reserve the right to prohibit the usage of ANY type of calculator, computer and data storage and retrieval device during some tests if no calculations or only very simple calculations are necessary. Sharing calculators during tests is not allowed, and the test proctor will not provide a calculator.

9. Information for repeaters * if all labs and the practical exam were completed and accepted during the failed semester, the student is exempted from repeating these;
* if all labs were completed and accepted during the failed semester without a valid practical exam, the student must do it as a part of the final exam (section 7 b);
* attendance to seminars is compulsory (see point 2);
* all exemptions and bonuses obtained during the failed semester (self-control tests, exemption from minimals) are lost;
* according to the relevant rules (point 6) self-control tests may be written and exemptions may be obtained again;
* in the case of schedule collisions with 2nd year classes we ask students to choose 2nd year groups such that conflicts with the 1st year subjects can be avoided (i.e. the student is still considered to be a 1st year student!).

Further information Zsolt Fazekas, Ph.D., manager of education, Dept. of Biophysics and Cell Biology

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Department of Anatomy, Histology and Embryology

Subject: **ORAL ANATOMY, HISTOLOGY AND EMBRYOLOGY I.**
Year, Semester: 1\(^{st}\) year/2\(^{nd}\) semester
Number of teaching hours:
Lecture: 25
Practical: 60

1\(^{st}\) week:
**Lecture:** General introduction. Epithelial tissue: covering and lining epithelia.
**Practical:** Anatomy: Anatomical terminology. The skull: part one Anatomical terminology. Commonly used anatomical terms (e.g. bone, joint, muscle, different blood vessels, nerves, parts of the human body). Terms of positions and directions. Schematic drawings of the planes and directions. Osteology: types of bones. Contours and markings of bones. Parts of the skull: the braincase and the facial skeleton. The bones of the braincase - overview. Main parts of the bones of the braincase. Parts of the braincase: the vault (calvaria) and the cranial base. The structure of the braincase. Vault of the skull (calvaria), sutures, fonticuli (drawings)! Histology: Introduction to histological methods. The microscope and the resolution. Using the virtual microscope: Case Center and Panoramic Viewer. The evaluation and interpretation of histological sections. Always keep in mind: What you can see in the microscope is a thin (almost 2-dimensional) section of a 3-dimensional object. 1. Small intestine (HE)

2\(^{nd}\) week:
**Lecture:** Osteology and arthrology – introduction. The muscular system - general introduction. Innervation of the muscles

3\(^{rd}\) week:
**Lecture:** Epithelial glands. Connective tissue - part one

4\(^{th}\) week:
**Lecture:** Connective tissue - part two

5\(^{th}\) week:
**Lecture:** Connective tissue - part three. Adipose tissue. Cartilage

6\(^{th}\) week:
**Lecture:** Histology of bone. Development and growth of
CHAPTER 14

the bone


7th week:
Lecture: Muscular tissue - part one. Muscular tissue - part two
Practical: Anatomy: SELF CONTROL (REMEDIAL: 10th week, during the practicum of general med. students) Histology: SELF CONTROL. (Basic histological methods. Epithelial and connective tissues.)

8th week:
Lecture: Spermiogenesis. Oogenesis

9th week:
Lecture: Fertilization, beginning of the pregnancy

10th week:
Lecture: Gastrulation. The early differentiation of the mesoderm. Histology of the blood vessels

11th week:
Lecture: The differentiation of the ectoderm and mesoderm. Blood

12th week:
Lecture: The differentiation of the entoderm, the folding of the embryo. Bone marrow

13th week:
4. Demonstration: Bone marrow smear (May-Grünwald-Giemsa stain) video

14th week:
Lecture: Development of the skull and the vertebral column. Overview of general embryology
Practical: Anatomy: Upper and lower limb repetition. Histology: SELF CONTROL (Adipose tissue, cartilage, bone, development and growth of the bone, muscular tissue. The histology of blood vessels, blood and bone marrow.)

15th week:
Lecture: SELF CONTROL

Requirements

Anatomy, histology and embryology
1 year, 2 semester
Concerning attendance, the rules written in the Regulations Governing Admission, Education and Examinations of the University are valid. The attendance on the seminars and practices and at least 30% of the lectures is compulsory. The presence in practices and seminars will be recorded. The head of the department may refuse to accept the academic performance if a student is absent more than twice from practices and seminars (including anatomy, histology and embryology) in one semester even if he/she has an acceptable reason. Compensation of practices and seminars is possible only on the same week at another student’s group. This compensation is not possible for those practices and seminars when the dental program is different from that of the general medicine. The compensation of three practices and/or seminars is allowed (including anatomy, histology and embryology) in one semester.

The dates and topics of the midterm examinations are indicated in the English program Bulletin. The exams cover the topics of lectures, seminars and practices of the semester and include relevant material from official textbooks. The midterm exams will be evaluated with points.

Failed midterm examinations can be improved if the score of the failed midterm examination is between 40 and 59 %. With this restriction the following midterm examinations can be improved: Both anatomy midterm examinations at times given in the detailed curriculum. Both histology midterm examinations: on the histology practical at the consecutive week.

At the end of the semester the overall academic performance (OAP) of the students will be evaluated with a five grade mark() on the basis of the following rules:
The performance of the students on the midterm examinations from anatomy, histology and embryology will be evaluated separately on each self control. To obtain a pass or better OAP mark the student has to collect at least 60% of the total score from each anatomy, histology and embryology self controls. If the student does not reach the 60% limit from all parts the OAP mark is fail (1). If the midterm performance of the student is at least 60% from all parts, the scores of the three parts (anatomy, histology, embryology; max. 100% each) will be added and the OAP mark will be calculated on the basis of the following rules:
Overall performance Mark on the midterm exams

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 – 349 %</td>
<td>2 (pass)</td>
</tr>
<tr>
<td>350 – 399 %</td>
<td>3 (satisfactory)</td>
</tr>
<tr>
<td>400 – 449 %</td>
<td>4 (good)</td>
</tr>
<tr>
<td>450 – 500 %</td>
<td>5 (excellent)</td>
</tr>
</tbody>
</table>

The end-semester exam is an oral exam in anatomy and written in histology and embryology, that covers the topics of lectures, seminars and practices of the semester. Those students who have got a pass (2) or better OAP mark may ask the department to accept it as a mark for the end-semester exam. Those students who have got a fail (1) OAP mark have to sit for the end-semester exam, but the student will be examined only from those parts from which he/she did not reach the 60% limit on the midterm examinations. The first exam is an “A” chance exam.
The end-semester oral examination at the end of the 2nd semester consists of the following parts:
Oral part.
Anatomy. 2 preparations - a. upper limb and lower limb
b. skull
Written part
CHAPTER 14

Embryology
Histology I.: microtechnique, epithelial tissue, connective tissue
Histology II.: adipose tissue, cartilage, bone, bone formation muscle tissue, blood vessels, red bone marrow, blood

If the student, on the basis of his/her performance on the midterm examinations, earn an exemption (collecting at least 60% of the total score) from one or two parts of the end-semester exam, the results of the midterm examinations will be converted into partial end-semester marks in the following way:

<table>
<thead>
<tr>
<th>Overall performance</th>
<th>Mark on the midterm exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 - 69%</td>
<td>2 (pass)</td>
</tr>
<tr>
<td>70 - 79%</td>
<td>3 (satisfactory)</td>
</tr>
<tr>
<td>80 - 89%</td>
<td>4 (good)</td>
</tr>
<tr>
<td>90 - 100%</td>
<td>5 (excellent)</td>
</tr>
</tbody>
</table>

Registration and postponement: Through the NEPTUN system.

Department of Biochemistry and Molecular Biology

Subject: **MOLECULAR BIOLOGY**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **42**
Seminar: **14**
Practical: **10**

**1st week:**

**2nd week:**

**3rd week:**


**4th week:**

**5th week:**

**6th week:**
**Lecture:** Prokaryotic and eukaryotic genome replication. Replication initiation. The structure of the replication fork. Replication of leading and lagging DNA strands. Solution for the topological problems caused by the replication process. Problems associated with the replications of non-circular chromosomes; the telomeres and telomerase. Molecular biology of recombination. DNA damaging agents, mutations. Principles of DNA repair. Main types of DNA-repair, the excision repair and removal of non-complementary nucleotides (mismatch repair). RNA and
gene expression

7th week:

8th week:
Practical: Protein blotting and immunological identification by specific antibodies.

9th week:
Practical: Protein blotting and immunological identification by specific antibodies.

10th week:

Practical: Protein blotting and immunological identification by specific antibodies.

11th week:
Practical: Studies on phosphatases

12th week:
Practical: Studies on phosphatases

13th week:
Practical: Studies on phosphatases

14th week:

15th week:
Self Control Test

Requirements

Requirements for signing the semester: attendance in laboratory practices and seminars.

Required knowledge from Molecular Biology: topics of molecular biology presented at the lectures (slides are available at the http://bmbi.med.unideb.hu web site, username: student, password: student2015) and topics discussed in the seminars.

Attendance on the lectures is not compulsory, but recommended: in case of one lecture absence seminar bonus points are erased, in case of two lecture absence all collected points (control test points) are also erased.

On the seminars, lectures of the previous week can be discussed. Based on the knowledge and activity of the students on the seminars, the best students can collect 6 bonus points during the semester. (6 bonus points can be given to max. 10% of the students, 3 bonus points can be given to max 30% of the students). Half of the seminar bonus points can also be added to the result of the written exam. In case of the seminars maximum three absences are accepted. Students can’t make up a seminar with another group.

All of the laboratory practices have to be performed, if someone is absent due to any serious reason, proved by
CHAPTER 14

medical paper, the missing experiment have to be performed within the three weeks practical period joining to another group (after obtaining permission from the practical teacher of the other group). Period of the practices: “Western-blot” on week 8-10, “Study of phosphatases” on week 11-13. The laboratory practice leader through signing the practice "lab-book" of the student acknowledges the acceptance of a practice. Students have to be prepared for the practices. Please check our homepage to get more information and the schedule of the practices (http://bmbi.med.unideb.hu/Education/Molecular Biology)! For obtaining the signature students need to attend the two practices, submit the laboratory books in the required format.

Control tests: During the semester students can write two control tests from the material of the lectures and seminars. Both tests are composed of 40 single choice test questions (one correct answer must be marked among five possible answers, each good answer is 1,25 points. By the two control test max. 2 x 50 points can be collected. Control tests are not obligatory.

Offered grades: at the end of the semester, on the basis of the collected points, grade will be offered. During the semester 100 (+6) points can be collected by the two control tests of the material of the lectures (50+50 points) and by the seminar activity (6 points). Grades: 2 (pass): 60-69.5 points, 3 (satisfactory): 70-79.5 points, 4 (good): 80-89.5 points and 5 (excellent): 90-106 points.

Students have to decide to accept the offered grade at the end of the semester. If someone accept the grade, it will be registered in the Neptun and the grade can be improved once during the exam period. If one declines the offered grade one must proceed to the semester exam.

Semester points will be automatically erased of those students, who break the rules of test writing.

Semester exam: Those students who did not collect 60 points during the semester (or didn’t accept the offered grade) have to take a written exam in the exam period. The written exam composed of 40 single choice test questions (one correct answer must be marked among five possible answers, each good answer is 1,25 points). By the test maximum 50 points can be collected, and half of the seminar bonus points is also added to the result of the exam. 60% (30 points) is needed to get a passing mark, and the grade increases with every 5 points (30-34.5 pass, 35-39.5 satisfactory, 40-44.5 good, 45-50 excellent).

If a student fails the “C” semester exam, the department provides him/her a chance to prove his/her knowledge of molecular biology in an oral exam in front of an official examination committee. If the student passes the oral exam he/she will given a grade 2 (pass). The department will provide one examination date per week during the exam period.

Improvement exam: One may choose and is allowed to take one improvement exam for a fee in the form of a semester exam. Both the offered grade and the exam grade can be improved. The policy of the institute is that one may not worsen the already achieved grade.

Exemption from the written part of the final “Biochemistry and molecular biology” exam: Those students who collect at least 210 points during the three semesters taught by the Department of Biochemistry and Molecular Biology and have more than 55 points from each of the three semesters during the course of their Biochemistry and Molecular Biology studies (Molecular Biology, Biochemistry I., Biochemistry II.) will be exempted from having to write a written part of the biochemistry and molecular biology final exam. Minimum questions of the Biochemistry final exam will also contain basic questions of Molecular Biology.

Please follow the announcements of the department on the announcement table (LSB downstairs 1st corridor), and on the website (http://bmbi.med.unideb.hu)

Department of Foreign Languages

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

1st week:
Practical: Organization of the course. Revision

2nd week:
Practical: Pretest

3rd week:
Practical: Unit 6

4th week:
Practical: Unit 7

5th week:
Practical: Unit 8

6th week:
Practical: Unit 8

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

**Attendance**

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

**Testing, evaluation**

In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes may modify the end-semester evaluation.

The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests.

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

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

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

**Consultation classes**

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

**Course book**: See the website of the department.

**Website**: Audio files to the course book, oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: ilekt.med.unideb.hu.
### Department of Pediatric Dentistry and Orthodontics

**Subject:** PREVENTIVE DENTISTRY I.

**Year, Semester:** 1\(^{st}\) year/2\(^{nd}\) semester

**Number of teaching hours:** Seminar: 15

<table>
<thead>
<tr>
<th>Week</th>
<th>Seminar</th>
</tr>
</thead>
<tbody>
<tr>
<td>2(^{nd}) week:</td>
<td>Seminar: Normal tissues in the oral cavity, anamnesis, steps of patient's examination.</td>
</tr>
<tr>
<td>3(^{rd}) week:</td>
<td>Seminar: Caries: clinical signs and symptoms, diagnostic methods.</td>
</tr>
<tr>
<td>4(^{th}) week:</td>
<td>Seminar: The disease of the periodontium, diagnosis and treatment.</td>
</tr>
<tr>
<td>5(^{th}) week:</td>
<td>Seminar: Written test.</td>
</tr>
<tr>
<td>6(^{th}) week:</td>
<td>Seminar: The prevention of periodontal diseases, aims and possibilities.</td>
</tr>
<tr>
<td>7(^{th}) week:</td>
<td>Seminar: The role of oral hygiene in prevention of dental diseases.</td>
</tr>
<tr>
<td>8(^{th}) week:</td>
<td>Seminar: The role of nutrition in prevention of dental diseases.</td>
</tr>
<tr>
<td>9(^{th}) week:</td>
<td>Seminar: The role of fluoride in prevention of dental caries.</td>
</tr>
<tr>
<td>10(^{th}) week:</td>
<td>Seminar: Written examination.</td>
</tr>
<tr>
<td>11(^{th}) week:</td>
<td>Seminar: Other possibilities in caries prevention. The fissure sealing.</td>
</tr>
<tr>
<td>12(^{th}) week:</td>
<td>Seminar: Dental health education.</td>
</tr>
<tr>
<td>13(^{th}) week:</td>
<td>Seminar: Different caries indices.</td>
</tr>
<tr>
<td>14(^{th}) week:</td>
<td>Seminar: The caries risk and assessment.</td>
</tr>
<tr>
<td>15(^{th}) week:</td>
<td>Seminar: Written test.</td>
</tr>
</tbody>
</table>

### Requirements

The students are required to attend the seminars and there is no possibility to compensate the missed seminars.

With acceptable certificate students may miss 2 seminars.

Five grade (AW5) practical grade evaluation:

Five grade (AW5) practical grade evaluation:

There will be 3 self-control tests (SCT) during the semester. All of the SCTs are obligatory to take and cannot be repeated. Each SCT will be graded (0-100%, 0% for absence) and the result of the three valid SCTs will be averaged as the final result at the end of the semester. Your offered grade will be average %

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>below 60</td>
<td>fail (1)</td>
</tr>
<tr>
<td>60-69,5</td>
<td>pass (2)</td>
</tr>
<tr>
<td>70-79,5</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>80-89,5</td>
<td>good (4)</td>
</tr>
<tr>
<td>above 90</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Assessment: AW5 five grade proposed marks (involving possibility of failure). If it is “failed” (1) the grade must be improved during the examination period as a “B” or “C” chance oral exam.

**Prerequisites:** Odontology
Division of Cell Biology

Subject: CELL BIOLOGY
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 30
Seminar: 25
Practical: 20

1st week:
Seminar: Introduction, preparation for labs, signing up for short presentations.

2nd week:
Seminar: Material related to lectures 1-2.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

3rd week:
6. Intracellular membrane systems, lysosome, peroxisome, endoplasmic reticulum.
Seminar: Material related to lectures 3-4.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

4th week:
Seminar: Material related to lectures 5-6.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

5th week:
Seminar: Material related to lectures 7-8.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

6th week:
Seminar: Material related to lectures 9-10.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).
Self Control Test

7th week:
Seminar: Material related to lectures 11-12.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

8th week:
Seminar: Material related to lectures 13-14.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

9th week:
Oncoenes in signaling. 18. Cell signaling IV. Cell-cell communication in the nervous and the immune system.
Seminar: Material related to lectures 15-16.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

10th week:
Seminar: Material related to lectures 17-18.
Practical: See schedule on the web page (spare labs).
Self Control Test

11th week:
Seminar: Material related to lectures 19-20.
Practical: See schedule on the web page (spare labs).

12th week:
24. Cell fates II: Stem cells
Seminar: Material related to lectures 21-22.
Practical: See schedule on the web page (labs 1 through 4 in small groups, rotary system).

13th week:

14th week:
Self Control Test

15th week:
Short description of the course:
This is an intermediate level university course on cell biology. It gives an overview of the functional anatomy of the higher eukaryotic animal cells with examples of the paradigmatic molecular mechanisms. The students successfully completing the course will have acquired an active professional vocabulary sufficient to study biochemistry, molecular biology, genetics, histology and physiology, as a minimal requirement. The “inductive” philosophy of teaching, the efforts to make connections between phenomena belonging to different chapters and the organism level context several key mechanisms are discussed in will give a broad and at the same time deep understanding to the more demanding students of the course.

Requirements:

Lectures:
Attendance of lectures is highly indispensable for acquiring the knowledge required to pass! They are your best source of synthesized and structured information. Some new concepts are discussed exclusively at the lectures. To further facilitate attendance, an attendance bonus system was introduced also in the case of Cell Biology lectures: If a student is present in every lecture, he/she automatically receives 5 bonus points which is added to the result of the final exam score. Attendance will be checked randomly. The student will lose all these (5) bonus points, if he/she is caught missing any one of the lectures at these random checkings. Certificates of any kind, including a medical certificate, will NOT be considered.

Books to be studied:
4th ed. of Essential Cell Biology (Alberts et al.,Garland Publ Inc. 2014. ISBN: 978-0-8153-4454-4) is the course book recommended as a foundation. It is concise, easy to read and the thorough knowledge of the material contained in its chapters (1. and 11-20.) is absolutely necessary for passing at the Final Exam. The preceding chapters contain explanations for basic molecular concepts: these chapters serve as reference and will not be directly asked in tests, except for certain parts indicated by the lecturer and also published in our website. In addition, there is a lot of additional information presented at lectures, and also discussed in the seminars, which the students are also required to know. The slides presented in lectures will be provided at the department website; however, you must attend the lectures and take notes to be able to interpret them. To read a full-text version of this additional material we recommend two books: Molecular Cell Biology (Lodish et al.) and Molecular Biology of the Cell (Alberts et al.)

Seminars:
In the seminars, students should ask their questions related to the topic of the lectures discussed (see final timetable of lectures and seminars that will be announced on the week 1. of the semester). Besides, every student (two in each group in every seminar) will give a short presentation on the topic of one of the lectures discussed in the seminar. The topics will be distributed in the first seminar. The talks are graded on a scale of 0-3. Getting a “0” on the presentation means a failure and the presentation has to be repeated on a new topic, in a seminar of the student's own group. Otherwise everyone is entitled to give 1 presentation only. No lecture book can be signed without getting at least 1 point for the presentation. If the student receives 0 point, he/she must ask for another topic and present it at another seminar. However, no presentation can be done after the end of the study period. Students ending up without any point for the presentation will have to answer assay questions from their presentation topic in the time of the second self-control test. This also involves that they do not have a possibility to take the second self-control test and collect bonus points or to get an offered grade. If a student fails on this written examination, it means that he/she does not get a signature and cannot take the Cell Biology Final Exam. The presentation has to be a free talk, not a reading. The duration of a presentation should not exceed 15 minutes. You have to read the relevant background information from your textbook and make the topic understandable to your fellow students. You should use the lecture material available at the cell biology website to make your presentation easy to follow. You are expected to be ready to present at least 10 slides of the lecture, from those that contain figures/pictures, rather than just explanatory text. Only exceptionally good presentations that clearly present good summaries of the lectures are awarded with 3 points. It is the professor / tutor in the seminar who alone decides the number of bonus points awarded, based on his/her own judgment. The material covered in the presentations is fully part of the SCT-s and the Final Exam. Including extra material obtained through the student’s own research in textbooks or the internet will be appreciated, but will not substitute for a clear and detailed knowledge of the lecture/textbook material.

Labs:
Completing all labs, and writing up the results and their interpretation in a lab log book on the spot is required. You must prepare for the lab before the lab starts. The compulsory preparation for the lab includes the writing of an
introduction to your lab logbook BEFORE THE LAB that outlines the problem you will address in the lab and the methods and approaches that are used to answer the question. ONLY HANDWRITTEN, BOUND LAB LOG BOOKS ARE ACCEPTABLE! The student’s preparation and their work at lab will be graded by the lab teachers giving 0-3 bonus points. If a student’s preparation is considered unacceptable by the tutor (e.g. the handwritten introduction is missing in the lab logbook, etc.), he/she gets 0 point. The average value of the lab bonus points is added to the exam points at the end of the semester.

Maximum one practice can be missed, and it must be made up for in the last week. Only medical or official excuses are accepted, after showing the appropriate documents. After completing the lab, the lab tutor should sign on the cover of the log book, certifying your presence at the lab and sign separately for the acceptance of your work. You are eligible for this second signature only if you know what and why you did during the lab and what the result was. You should obtain these two signatures and the grade at the end of the lab and no later. Those who do not have all their labs accepted (after the single (?) make-up lab), are obliged to take a written lab exam covering not only the lab practice itself, but also the theoretical background of the practices in the time of the second self-control test. This also involves that they do not have a possibility to take the second self-control test and collect bonus points or to get an offered grade. If a student fails on this written examination, it means that he or she does not get a signature and cannot take the Cell Biology Final Exam.

Reading source for the lab:
A Cell Biology lab manual written by the members of the department is provided in the Book Store (In Theoretical Building). Additional material is available on the web site.

Lab schedule:
Small groups (subgroups) consist of 3-7 people for doing the various labs in a rotary system are formed in the first seminar. The rotary system is published on the web page and shown on the lab door. If you missed the first seminar you will be put into a subgroup where you fit and you should check your assignment with your fellow students.

YOU ARE NOT ALLOWED TO CHANGE SUBGROUPS!

Self-control Tests (SCT-s):
There are two SCT-s. The dates and topics for SCT-s will be announced on week 1 of the semester. Exact times and locations for each group will be posted during the semester. Types of the SCT questions are akin to the Final Exam questions; i.e. true or false, simple selection, multiple selection, relation analysis, fill in questions or define a definition type questions may be awaited. Lab questions will be included in the 2nd self-control test as well as in the Final Exam test, to approximately 10% of the total points. Based on the score of the SCT-s, you receive bonus points that count towards your grade in the Final Exam.

Conversion of SCT points into bonus points for Final Exam:
Bonus points based on the score (as a %) of an SCT. The bonus points are calculated as 0,05 x score (as a %). Maximum 5 bonus points can be earned with each SCT, so totally 10. Writing the SCT-s is highly recommended. If you miss a SCT, you will miss valuable points from your Final Exam score!

Grade offering based on SCT results:
For those performing well on SCT-s, i.e. earning 50 % or more in the average of the two SCT-s, based on the sum of their bonus points (lab points + lecture bonus + short presentation) and average SCT result we offer final grades as follows:

- 60-69.5 points: pass (2)
- 70-79.5 points: satisfactory (3)
- 80-89.5 points: good (4)
- above 90 points: excellent (5)

The offered grades will be posted on the Neptun system where students must declare acceptance or refusal. Accepting the grade means exemption from the final exam, so the accepted grade will be entered into the lecture book as the final grade. Students without offered grade must attend the Final Exam (see below). If a student did not accept the offered grade, but his/ her average of the two SCT-s is 60 % or more, he/she does not have to write A-part of the written Final Exam (see later). They got 14 points or the average of the A parts of the two SCTs.

The conditions for signing the lecture book are the following:
(1) presence at, and acceptance of all the labs or passing the written lab exam,
(2) presence at the seminars and (2) minimum 1 point for the presentation at the seminar (see above).

Rules concerning repeaters:
Attendance of labs is not compulsory if you had all the four labs accepted last year and your lecture book was signed. Please note, however, that questions on the lab will be part of the SCT-s and the Final Exam.
CHAPTER 14

Attendance of seminars is compulsory. Your short presentation of last year does not have to be repeated if it scored 1 point or more, otherwise you have to redo it.

Final Exam: The exam is a written test of two parts (A and B).

Part A:
Part A of the written test is a set of 10 questions addressing the basic concepts listed among the key-words published in our website. These questions will include 5 brief descriptions of basic concepts, and 5 questions of yes/no type. The descriptions should contain 2 valuable and relevant facts/statements on the subject asked, for maximal score (2 points each; partial points may be considered). It is strongly recommended that the students themselves elaborate a few basic statements for each word-key during the semester, as part of their preparation and studying. The A test has to be completed in 10 minutes. You will need to collect at least 14 points to pass the A test. Those earning below 14 points in part A fail the entire exam without regard to their score on part B, what will not be corrected and scored in this case. The score of a passed A test will be added to the score of part B, thus yielding 14-20% of the total exam points.

Part B:
Part B is a complex test, including two short essays (2x10=20%), fill-in, short answer, multiple choice, relation analysis, sketch-recognition as well as simple choice and yes/no questions (50%). It contains material from the textbook, lectures and seminars. The lab questions are a section of the part B exam (to approximately 10% of the total test points).

Cell Biology part A written max. 20 points
Cell Biology part B written max. 80 points

Bonus points will be added only if the score of A+B part alone is above 50%:
Cell Biology short presentation bonus max. 3 points
Bonus points for lecture attendance max. 5 points
Cell Biology lab bonus points max. 3 points
Bonus points based on SCT scores max. 10 points
Total 121 points

Your grade on the Final Exam:
below 60% points: fail (1)
60-69.5% points: pass (2)
70-79.5% points: satisfactory (3)
80-89.5% points: good (4)
above 90% points: excellent (5)

Repeated exams:
On repeated exams during the exam period of the 2nd semester, points earned from SCT-s, lecture attendance, lab points during the current semester and from short presentations are valid throughout. However, all bonuses and merits expire by next spring exam period except for Cell Biology lab points and bonus points for short presentations. Note that all parts have to be repeated on repeated exams, that is, cell biology written part B (including the lab questions), and cell biology written part A with less than 14 points.
The test/exam grade earned should reflect the true knowledge of the student. Therefore, if there are doubts whether the result of the written tests (SCTs, A, B, exam) really reflect the true knowledge of the student, the teachers/professors may also ask oral questions so as to be able to give a grade they deem justified. The C chance exam always consists of both a written part (similarly to A and B chance exams) and an oral part. The committee summarizes the results of both and decides the grade, not necessarily averaging them.

Further Information:
- Study advisor from Cell Biology: Zsolt Fazekas Ph.D. (cellbioedu@med.unideb.hu)
- Info regarding tests, seminars, lectures is posted on the lab door ("Biophysics lab", ground floor, Theoretical Building), the department bulletin board and http://biophys.med.unideb.hu.
- User names and passwords will be given out at the first cell biology seminar during the first week of the semester.
- We offer to keep an e-mail contact with the students whenever possible. This is smooth, fast and effective. Please write to cellbioedu@med.unideb.hu.
- Personal consultation with the study advisor: office hours are posted on the website and the bulletin board of the Department. For appointments outside office hours please write an email.

Recommended books accessible online free of charge can be reached at the following URLs:
Lodish et al.: MOLECULAR CELL BIOLOGY (4th ed.):
Exemptions:
In order to get full exemption from the Cell Biology course the student has to write an application to the Educational Office. The Department of Biophysics and Cell Biology does not accept such applications. Applications for exemptions from part of the courses are handled by the department. The deadline for such applications is Monday on the second week. The following documents have to be submitted to the study adviser: 1. application with an explanation why the student thinks that he/she is eligible for an exemption; 2. certificates about the courses the student has taken; 3. a reliable description of the curriculum of the courses taken. The decision about exemption is based on a result of an “open-book” exam test on the third week. Applicants will be notified whether they have to take such an examination.

Division of Emergency Medicine

Subject: FIRST AID AND REANIMATION
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 6
Practical: 15

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

2nd week:
Lecture: Unconsciousness; airway obstruction; airway opening maneuvers.

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

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

5th week:
Practical: Examination of breathing and circulation; the chest-thrust; airway opening maneuvers; the recovery position (Gábor maneuver); one hour

6th week:
Practical: Practicing the ventilation (one hour)

7th week:
Practical: Practicing the chest compression (one hour)

8th week:
Practical: CPR training without equipment (two hours)

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

10th week:
Practical: Bleeding control with direct pressure and pressure point techniques; bandages and fixation; equipments, tools and maneuvers; general rules of provisory injury therapy; pressure bandage for controlling of arterial and venous bleeding on the spot (two hours)

11th week:
Practical: Bandages for head, nose; ears, eyes; chin, body and extremities; practicing the bandages (two hours)

12th week:
Practical: First aid in fractures, luxations, distortions and extended soft-tissue injuries; bandage for fixation with special triangle; Schantz collar; stifneck; Dessault bandage; fixation of finger and hand fractures; usage of Kramer splint and pneumatic splint (two hours)

13th week:
Practical: CPR training (two hours)

Self Control Test

14th week:
Lecture: Burning; first aid in burning diseases; shock

15th week:
Lecture: Intoxication; guideline of poisoning in toxicology; typical intoxications, special signs, first aid
Requirements

Condition of signing the Lecture book:

Attendance at practices is compulsory. The tutor may refuse to sign the Lecture book if the student is absent from the practices more than twice in a semester. Missed practices should be made up for after consultation with the practice tutor. Facilities for maximum of 2 make-up practices are available at the Ambulance Station in Debrecen.

The subject First aid and reanimation (AOELS03T1, AOELS04T2) includes course material equivalent to 1.5 credits according to the electronic, Moodle-based teaching program entitled “Basic Life Support module (BLS)”
Department of Biomaterials and Prosthetic Dentistry

Subject: DENTAL MATERIALS
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 30

1st week:
Lecture: Classification of dental materials.
Practical: About the practice lessons in general. The instruments used during the practice.

2nd week:
Lecture: Plasters used in dentistry. Thermoplastic materials.
Practical: The trial of plasters and waxes used by dental technicians.

3rd week:
Lecture: Basics about metals.
Practical: The presentation of casting of metals I.

4th week:
Lecture: Metals used in dentistry.
Practical: The presentation of casting metals II.

5th week:
Lecture: Methods for evaluating dental materials.
Practical: Mechanical testing of dental polymers I.

6th week:
Lecture: Polymers.
Practical: Practical and theoretical test I. Mechanical testing of dental polymers II.

7th week:
Lecture: Plastics used in dentistry.
Practical: Fabrication of denture base from polymers.

8th week:
Lecture: Dental filling materials.

9th week:
Lecture: Dental cements.
Practical: Introduction and evaluation of dental cements.

10th week:
Lecture: Adhesion in dentistry.
Practical: Practical and theoretical test II. The trial of dental adhesives.

11th week:
Lecture: Impression materials.
Practical: The trial of impression materials.

12th week:
Lecture: Basics about ceramics.
Practical: Application of ceramics in practice.

13th week:
Lecture: Ceramics and tooth colour in dentistry.
Practical: The presentation of technical phasis of a ceramic fused to metal crown.

14th week:
Lecture: Secondary materials in prosthetics.
Practical: Practical and theoretical test III. Introduction of secondary materials used in prosthetics.

15th week:
Lecture: Biocompatibility, corrosion.
Practical: Remedial.

Requirements

Conditions of signature in the lecture book:
All the missed practices must be certificated, but even in certificated cases maximum 3 practices may be missed.
There is no possibility to compensate any missed practices. The practices may end with oral or written assessment of the practical work.
The final result of the practices will be calculated together with the tests results as final result.
Missed practice means 'not-accepted' practice automatically.
At least 4 written or oral self-control tests will be held during the semester, according to the time-table at a predefined time and place.
More self-control tests can be held without any notification. The result of a missed self-control is 'fail'.
The result of one of the self-controls can be improved as a remedial during the 15th week of the semester. Oral or written tests during the semester will be registered as practicals. One opportunity will be provided for checking the test results at a predefined time and place.

If the final result of the self-controls reaches the minimum average of 3.51, (3.51-4.5 good; 4.51-5 excellent) will be offered as the grade of the ESE, but none of the Self-controls could be fail, if one of them is, it must be improved as a remedial during the 15th week. Students are not obliged to accept the grade offered and may opt for taking an examination.

Assessment: ESE (involving possibility of failure).

**Department of Anatomy, Histology and Embryology**

**Subject:** ORAL ANATOMY, HISTOLOGY AND EMBRYOLOGY II.

**Year, Semester:** 2nd year/1st semester

**Number of teaching hours:**

- **Lecture:** 20
- **Seminar:** 60
- **Practical:** 60

**1st week:**

**Lecture:** Topographical anatomy of the head and neck - part one. Topographical anatomy of the head and neck - part two. Topographical anatomy of the oral and nasal cavities. Anatomy, histology and development of the teeth.

**Seminar:** See: practical

**Practical:** Topographical anatomy of the head and neck I-II.a. Topographical anatomy of the head and neck: part one. Surface anatomy: Draw the surface projections and landmarks of the following structures on the cadaver:

- Head: cutaneous branches of the trigeminal nerve.

**2nd week:**

**Lecture:** Pharynx. Larynx. Development of the face, and oral and nasal cavities. Development of the pharyngeal gut.

**Seminar:** See: practical.


**3rd week:**

**Lecture:** Clinical anatomy of the head and neck - part one. Clinical anatomy of the head and neck - part two.

**Seminar:** See: practical

**Practical:** Anatomy: Topographical anatomy of the head and neck: V-VI.a. Head: Infratemporal fossa. At the side of the removed parotid gland dissect the alveolar...
nerve and artery from the mandibular canal and remove that half of the mandible. Cut out the masseter, the external and internal pterygoid muscles by careful preparation of the structures between the two pterygoid muscles. Preparation of the inferior alveolar nerve, lingual nerve, chorda tympani, maxillary artery, auriculo-temporal nerve, middle meningeal artery, stylohyoid, styloglossus, stylopharyngeus muscles, glossopharyngeal nerve.

Remove the lateral plate of the pterygoid process of the sphenoid bone. Find the muscles of the soft palate. Overview: blood supply and innervation of the teeth. b. Dissection of the neural region from the external occipital protuberance to the 7th thoracic vertebra. Occipital artery, muscles of the neural region from layer to layer. Identify the suboccipital triangle and its elements. Remove all muscles attached to the occipital bone. Make visible the posterior arch of the atlas and exarticulate the atlantooccipital joint. Cut through the alar ligaments and the apical ligament. Bend the head forward. The head remains connected to the body only through the pharynx and esophagus. In the other cadaver, structures related to the pharynx are dissected. Para- and retropharyngeal spaces. Histology: Palatine. Longitudinal section of palate (HE stain).2. Longitudinal section of palate (van Gieson stain).3. Cross section of palate (HE stain).4. Cross section palate (Azan stain).5. Overview: types of mucosal membranes in oral cavity

4th week:
Lecture: Lymphatic tissue-part three. The skin. The hypothalamo-hypophyseal system. Hypophysis and epiphysis.
Seminar: See: practical
Practical: Anatomy: Topographical anatomy of the head and the neck: VII-VIII.a. Open the posterior wall of the pharynx and investigate the related structures. Study the faucial isthmus. Dissection of the larynx in situ: remove the lamina of the thyroid cartilage the one side and dissect the muscles of larynx. b. Demonstration of the median section of the head and neck. Conclusion of the dissection of the pharynx and larynx. Make a schematic drawing of the median section of the head. Demonstration of the pharynx, larynx, tongue, palatine and lingual tonsil. Make schematic drawings of these structures. Overview: blood supply and innervation of the oral cavity mucosa, tongue and larynx. Histology: Histology of teeth – part one.1. Longitudinal section of demineralized tooth (HE stain).2. Longitudinal section of demineralized tooth (Azan stain).3. Longitudinal section of mineralized tooth (unstained).4. Longitudinal section of mineralized tooth (Dimethylmethylene blue stain). Overview: structure of enamel, dentin, cementum

5th week:
Lecture: Thyroid, parathyroid and suprarenal glands. The APUD system. Heart - part one. Heart - part two.
Seminar: See: practical

ACADEMIC PROGRAM FOR THE 2ND YEAR
CHAPTER 15

and veins of the heart. Internal anatomy of the atria and the ventricles of the heart. Types, locations and functions of the heart valves. Laiders of the heart wall. The conducting system. Functional aspects of the circulatory system. Pulmonary and systemic circulation. Presentation of radiographs, cardiovascular silhouette. b. Study the trachea, lungs, pleura and its recesses. Remove the lungs and inspect the surfaces, lobes and hilum. Make schematic drawings of the surfaces of the lungs. Dissect bronchopulmonary segments (in one of the lungs) and bronchial arborization (in another lung). Histology: SELF CONTROL: Histology of lip, tongue, salivary glands, palate, lymphatic tissues, skin, endocrine system. Structure and development of teeth and their supporting tissues.

9th week:

10th week:

11th week:

12th week:

13th week:

14th week:
EXAMINATION: Students are supposed to register for the exam through the NEPTUN system.

Performance on both the practical and theoretical examinations will be taken into consideration. Registration for the repeated. Calculation of the mark for the final examination. To calculate the mark for the final examination, the marks from anatomy, histology and embryology. On the “B” and “C” examinations, the entire theoretical examination has to be successful if the student passes all five parts successfully.

The topics of the examination are formulated in a way that the student should present a synthetic knowledge from the parts that have been successfully passed previously. Theoretical examination: The exam is an oral examination and is continuous aid of anatomical and histological preparations. The exam consists of the following parts:

1. Anatomy: Gross and topographic anatomy of the head and neck. Anatomy 2: Gross and topographic anatomy including visceral relations of the organs of the thorax, abdomen, pelvis and perineum. Histology 1: Histology of the lip, tongue, salivary glands, palate, lymphatic tissue, skin, endocrine system. Structure and development of teeth and their supporting tissues. Histology 2: Histology of the respiratory, digestive, and urogenital systems. Evaluation of the mid-term examinations: Mid-term examinations will be evaluated with points. The mid-term examination is successful in case of 60% or better performance. In case of successful mid-term examinations, the student will be exempted from the corresponding parts of the final practical examination. Improvement of a failed mid-term examination: Failed mid-term examinations can be improved if the score of the failed mid-term examination is between 40 and 59%. With this restriction, the following mid-term examinations can be improved: 1. The first and second anatomy mid-term examinations; on the week following the examination, at 8 o’clock. Conversion of the successful mid-term examination to grades: The achievements on successful mid-term examinations are converted to grades for the end-semester final examination on the basis of the following scheme of conversion: 60-69 % 2 (pass) 70-79 % 3 (satisfactory) 80-89 % 4 (good) 90-100 % 5 (excellent) Final examination at the end of the 1st semester: The final examination consists of a practical and a theoretical part. The examination begins with the practical part. Students can sit for the theoretical part only after passing all parts of the practical examination. Practical examination: The exam is an oral examination conducted with the continuous aid of anatomical and histological preparations. The exam consists of the following parts: 1. Anatomy a. Head and neck: (gross and topographic anatomy including visceral relations) b. Visceral organs 1: (gross and topographic anatomy including visceral and skeletal relations of the organs of the thorax, abdomen), (gross and topographic anatomy including visceral and skeletal relations of the organs of pelvic and perineum) 2. Histology (2 slides) a. Histology 1: Histology of the lip, tongue, salivary glands, palate, lymphatic tissue, skin, endocrine system. Structure and development of teeth and their supporting tissues. b. Histology 2: Histology of the respiratory, digestive and the urogenital system. The parts of the exam will be evaluated separately from each other. The exam is successful if the student passes all five parts successfully. On the “B” and “C” examinations, the student will be exempted from the parts that have been successfully passed previously. Theoretical examination: The exam is an oral examination. The topics of the examination are formulated in a way that the student should present a synthetic knowledge from anatomy, histology and embryology. On the “B” and “C” examinations, the entire theoretical examination has to be repeated. Calculation of the mark for the final examination: To calculate the mark for the final examination, the performance on both the practical and theoretical examinations will be taken into consideration. Registration for the examination: Students are supposed to register for the exam through the NEPTUN system.

Requirements

Concerning attendance, the rules written in the Regulations Governing Admission, Education and Examinations of the Faculty of Medicine, University of Debrecen, are valid. The presence in practices, seminars and lectures will be recorded. The head of the department may refuse to accept the academic performance if a student is absent more than four times from practices and seminars (including anatomy, histology and embryology) in one semester, even if he/she has an acceptable reason. Compensation of practices and seminars is possible only on the same week at another student’s group. This compensation is not possible for those practices and seminars when the dental program is different from that of the general medicine. The compensation of three practices and/or seminars is allowed (including anatomy, histology and embryology) in one semester. The program of the lectures, seminars and practices is written in the English Program Bulletin. Rules of the examinations: Mid-term examinations; Attendance in the mid-term examinations (dates and topics are indicated in the English program Bulletin) is compulsory. The exams cover the topics of lectures, seminars and practices of the semester, and include relevant material from official textbooks. Two anatomy and two histology mid-term examinations will be organized with the following topics: Anatomy 1: Gross and topographic anatomy of the head and neck. Anatomy 2: Gross and topographic anatomy including visceral relations of the organs of the thorax, abdomen, pelvis and perineum. Histology 1: Histology of the lip, tongue, salivary glands, palate, lymphatic tissue, skin, endocrine system. Structure and development of teeth and their supporting tissues. Histology 2: Histology of the respiratory, digestive, and urogenital systems. Evaluation of the mid-term examinations: Mid-term examinations will be evaluated with points. The mid-term examination is successful in case of 60% or better performance. In case of successful mid-term examinations, the student will be exempted from the corresponding parts of the final practical examination. Improvement of a failed mid-term examination: Failed mid-term examinations can be improved if the score of the failed mid-term examination is between 40 and 59%. With this restriction, the following mid-term examinations can be improved: 1. The first and second anatomy mid-term examinations; on the week following the examination, at 8 o’clock. Conversion of the successful mid-term examination to grades: The achievements on successful mid-term examinations are converted to grades for the end-semester final exam on the basis of the following scheme of conversion: 60-69 % 2 (pass) 70-79 % 3 (satisfactory) 80-89 % 4 (good) 90-100 % 5 (excellent) Final examination at the end of the 1st semester: The final examination consists of a practical and a theoretical part. The examination begins with the practical part. Students can sit for the theoretical part only after passing all parts of the practical examination. Practical examination: The exam is an oral examination conducted with the continuous aid of anatomical and histological preparations. The exam consists of the following parts: 1. Anatomy a. Head and neck: (gross and topographic anatomy including visceral relations) b. Visceral organs 1: (gross and topographic anatomy including visceral and skeletal relations of the organs of the thorax, abdomen), (gross and topographic anatomy including visceral and skeletal relations of the organs of pelvis and perineum) 2. Histology (2 slides) a. Histology 1: Histology of the lip, tongue, salivary glands, palate, lymphatic tissue, skin, endocrine system. Structure and development of teeth and their supporting tissues. b. Histology 2: Histology of the respiratory, digestive and the urogenital system. The parts of the exam will be evaluated separately from each other. The exam is successful if the student passes all five parts successfully. On the “B” and “C” examinations, the student will be exempted from the parts that have been successfully passed previously. Theoretical examination: The exam is an oral examination. The topics of the examination are formulated in a way that the student should present a synthetic knowledge from anatomy, histology and embryology. On the “B” and “C” examinations, the entire theoretical examination has to be repeated. Calculation of the mark for the final examination: To calculate the mark for the final examination, the performance on both the practical and theoretical examinations will be taken into consideration. Registration for the examination: Students are supposed to register for the exam through the NEPTUN system.
1st week:
Practical: Safety instructions and fire regulations. Introduction to the practicals.

2nd week:
Practical: Determination of the activity of glycolytic enzymes (aldolase, LDH), electrophoresis of LDH.

3rd week:
Practical: Determination of the activity of glycolytic enzymes (aldolase, LDH), electrophoresis of LDH.

4th week:
Practical: Determination of the activity of glycolytic enzymes (aldolase, LDH), electrophoresis of LDH.

5th week:
Practical: Study on transaminases

6th week:
Practical: Study on transaminases

7th week:
Practical: Study on transaminases

8th week:
Practical: Extraction and separation of lipids. Determination of free fatty acids.

9th week:
Practical: Extraction and separation of lipids. Determination of free fatty acids.

10th week:
Practical: Extraction and separation of lipids. Determination of free fatty acids.

11th week:
Lecture: Degradation and synthesis of proline. Degradation and synthesis of arginine and ornithine, their precursor functions: NO, creatine, polyamines. Aspartate and asparagine degradation and synthesis in the
Requirements for signing the semester: attendance and participation in all laboratory practices and seminars as well as in the obligatory lectures (see the list of the obligatory lectures). Only one absence is accepted from the obligatory lectures, in case of more absences the semester won’t be accepted.

Required knowledge from Biochemistry I.: topics of metabolism presented at the lectures (available at the http://bmbi.med.unideb.hu web site, username: student, password: student2015) and topics discussed in the seminars.

On the seminars the lectures of the previous week can be discussed. New scientific information connected to the lectures will also be presented; those materials will also be asked on the exams. Based on the activity of students on the seminars, the best students can collect 6 bonus points during the semester (ask details from the seminar teachers). In case of the seminars maximum three absences are accepted. Students can’t make up seminar with another group.

Every laboratory practices must be performed, if someone is absent due to any serious reason proved by medical papers, the missing experiment have to be performed within the three weeks practice period joining another group (after obtaining permissions from both practice teachers). In case of more than one remedial practice, students cannot get any points for the additional practice units.

Achievements during the semester will be evaluated in terms of points. During the semester 100 (+ 6) points can be collected. 100 points could come from the laboratory test (10 points), note book (3 x 5 points) and from the control tests of the material of the lectures (75 points). Control tests consist of test questions and recognition of chemical structures. The list of the chemical structures can be found in the biochemistry practical guide. Bonus points earned the seminar activity (6 points) will be added to the total collected points (half of the bonus points will be added to the result of the semester exam).

At the end of the semester, grade will be offered on the basis of the collected points for all those students, who collected at least 60 points (and reached at least 60% of the practical points!); pass for 60-69,5 points; satisfactory for 70-79,5 points; good for 80-89,5 points; excellent for 90-106 points. Those students who want to get a better grade, can take an exam. Those, who did not collect 60 points, have to take a written exam in the exam period.

At the written end-semester exam 50 points can be collected, it consists of single- and multiple choice test questions from the lecture material (45 points) and from the practice (5 points), 60% (30 points) is needed to get a passing mark, and the grade increases with every 5 points (30-34.5 pass, 35-39.5 satisfactory, 40-44.5 good, 45-50 excellent).

Those students who collect at least 210 points during the three semesters from the three main courses (Molecular Biology, Biochemistry I., Biochemistry II.) of the Department of Biochemistry and Molecular Biology and have more than 55 points from each subjects will be exempted from the written part of the final exam.

Please follow the announcements of the department about the control tests, exams and other current information on the announcement table (LSB downstairs, 1st corridor), and on the website (http://bmbi.med.unideb.hu).
Congratulations to the Department of Foreign Languages.

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Revision</td>
</tr>
<tr>
<td>2nd week</td>
<td>Pretest</td>
</tr>
<tr>
<td>3rd week</td>
<td>Unit 1</td>
</tr>
<tr>
<td>4th week</td>
<td>Unit 2</td>
</tr>
<tr>
<td>5th week</td>
<td>Unit 3</td>
</tr>
<tr>
<td>6th week</td>
<td>Unit 4</td>
</tr>
<tr>
<td>7th week</td>
<td>Unit 5</td>
</tr>
<tr>
<td>8th week</td>
<td>Revision. Mid-term test.</td>
</tr>
<tr>
<td>9th week</td>
<td>Unit 6</td>
</tr>
<tr>
<td>10th week</td>
<td>Unit 7</td>
</tr>
<tr>
<td>11th week</td>
<td>Unit 8</td>
</tr>
<tr>
<td>12th week</td>
<td>Unit 9</td>
</tr>
<tr>
<td>13th week</td>
<td>Unit 10</td>
</tr>
<tr>
<td>14th week</td>
<td>Revision. End-term test.</td>
</tr>
</tbody>
</table>

### Requirements

**Attendance**

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

**Testing, evaluation**

In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam.

A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes are added to the average score of the written tests.

The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests.

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

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

If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.
Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: Audio files to the course book, oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: ilekt.med.unideb.hu.

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>Regulation of striated muscle contraction. Smooth muscle physiology. Electrical properties of the heart. Mechanisms of the different types of arrhythmia; the ECG</td>
</tr>
<tr>
<td>4th</td>
<td>Excitation-contraction coupling in cardiac muscle. Cardiac Ca2+-entry mechanisms. Contractile properties of the heart. Effects of humoral agents and the autonomic nervous system on the heart</td>
</tr>
<tr>
<td>5th</td>
<td>&quot;My heart....&quot;Measurement of intracellular Ca2+ concentration. Regulation of cell function II.</td>
</tr>
<tr>
<td>7th</td>
<td>Components of vascular tone. The cardiac output and the cardiac cycle. Cardiovascular reflexes I. Cardiovascular reflexes II.</td>
</tr>
<tr>
<td>9th</td>
<td>Splanchnic, cutaneous and muscular circulation. Circulatory shock</td>
</tr>
<tr>
<td>10th</td>
<td>Physiology of the body fluids, homeostasis. Red blood cells, blood types. Blood plasma, jaundice. Hemostasis</td>
</tr>
<tr>
<td>12th</td>
<td>Control of breathing. Integrated response of the cardiovascular and respiratory system. Energetics of muscle contraction. Exercise physiology</td>
</tr>
</tbody>
</table>

Requirements

1. Signature of Lecture Book
   Attendance of lectures, laboratory practices and seminars is compulsory. The signature of the Lecture Book may be refused for the semester in case of more than five absences from the seminars and/or more than two absences from the practices.
   Completion of a missed seminar with a different group is not possible. All missed practices must be made up, however this does not reduce the number of absences! Completion of all topic sheets in the Exercise Book, each verified by the signature of the teacher, is also a precondition of the signature of the Lecture Book.
   If one has three or more lecture absences, the end-semester examination (ESE) may not be substituted with the average
CHAPTER 15

Each student must attend seminars with the group specified by the Education Office. For continuous updates on all education-related matters, please check the departmental web-site (http://phys.dote.hu).

The lectures of Dental Physiology I. are listed at the web site of the Department of Physiology (http://phys.dote.hu).

2. Evaluation during the semester
The knowledge of students will be tested 3 times per semester in the form of a written test (multiple choice questions). Participation on mid-semester written tests is compulsory. If one wishes to improve on his/her general performance, it is possible to take a make-up (remedial) test on one of the three topics. Note that the calculation of the average score will be based upon the result of the remedial test, even if it is worse than the original score. At the end of the 2nd semester the 1st semester test results will be used to calculate your bonus points. The bonus points are valid only for a given academic year! The calculation of bonus points are detailed at the description of Dental Physiology II. Laboratory practical knowledge of the students will be tested at the end of the first semester as part of the Closing Lab, evaluation with two level marks (accepted or not accepted). As a precondition of attending the Closing Lab, the fully completed Exercise Book (with all the verified topics) must be presented during the Closing Lab. Students are expected to perform the given experiment on their own and must be familiar with theoretical background also. In case of a negative result, the Closing Lab can be repeated, but only once. If the final evaluation of the Closing lab is "Not Accepted", then the student will be given laboratory practical questions on the end-semester examination.

3. Examination
The first semester is closed by an oral end-semester exam (ESE) covering the topics of all lectures, seminars and laboratory practices of the semester. The list of exam questions is available on the departmental website (http://phys.dote.hu).

If the final evaluation of the Closing lab is "not accepted", then the student will be given laboratory practical questions, too.

An ESE mark based on the average score of mid-semester tests will be offered if
- one's average score of the three mid-semester tests is above 60%, and
- (s)he successfully completed the Closing Lab, and
- (s)he has fewer than 3 lecture absences, and
- the Dept. of Physiology signs the lecture book.

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

<table>
<thead>
<tr>
<th>score</th>
<th>mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 59 %</td>
<td>fail</td>
</tr>
<tr>
<td>60 – 69 %</td>
<td>pass</td>
</tr>
<tr>
<td>70 – 79 %</td>
<td>satisfactory</td>
</tr>
<tr>
<td>80 – 89 %</td>
<td>good</td>
</tr>
<tr>
<td>90 – 100 %</td>
<td>excellent</td>
</tr>
</tbody>
</table>

- If one is not satisfied with this result, (s)he may participate in ESE during the examination period.

Department of Biomaterials and Prosthetic Dentistry

Subject: INTRODUCTION TO THE FIXED PROSTHODONTICS
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 30

1st week:
Practical: Introduction of practices, requirements of the subject.

2nd week:
Lecture: Built up of TMJ. Tooth contacts.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th week</td>
<td>Positions of the mandible.</td>
<td>Occlusal wax up.</td>
</tr>
<tr>
<td>6th week</td>
<td>Chewing.</td>
<td>Occlusal wax up.</td>
</tr>
<tr>
<td>7th week</td>
<td>Fixed prosthesis.</td>
<td>Occlusal wax up.</td>
</tr>
<tr>
<td>8th week</td>
<td>Indication of fixed prosthesis.</td>
<td>Written self control. Occlusal wax up of upper arch.</td>
</tr>
<tr>
<td>9th week</td>
<td>Instruments used for tooth preparations.</td>
<td>Occlusal wax up.</td>
</tr>
<tr>
<td>10th week</td>
<td>General aspects of tooth preparation. Indication and types of crowns.</td>
<td>Occlusal wax up.</td>
</tr>
<tr>
<td>11th week</td>
<td>Preparations of molar and premolar teeth for full veneer crown.</td>
<td>Carving of molar’s preparation from gypsum.</td>
</tr>
<tr>
<td>12th week</td>
<td>Preparations of frontal teeth for full veneer crown.</td>
<td>Carving of premolar’s preparation from gypsum.</td>
</tr>
<tr>
<td>13th week</td>
<td>Making of the gypsum model.</td>
<td>Carving of incisors’ preparation from gypsum.</td>
</tr>
<tr>
<td>14th week</td>
<td>Finish wax up works.</td>
<td>Written self control.</td>
</tr>
<tr>
<td>15th week</td>
<td>Discussion.</td>
<td>Practical self control.</td>
</tr>
</tbody>
</table>

**Requirements**

Conditions of signature in the lecture book:

- Active participation on the practices (there is no possibility to compensate the missed practices).
- With acceptable certificate students may miss practices, but the ratio of missed practices cannot exceed 1 practice, even it is certificated.
- The practical work is evaluated at the end of each practice. The result can be: accepted, or not-accepted.
- Missed practice is not-accepted.
- The number of accepted practices must be above 70% of practices.

**Assessment:**

Five grade proposed marks AW5 (involving possibility of failure).

Five grade (AW5) practical grade evaluation:

The final AW5 marks are decided according to the marks given during the semester. At least 2 written or oral self-control tests will be held during the semester, the pre-announcement of which is not obligatory for the department. Any self-control test with a failed (1) result can be repeated once during the semester, in a given time. If the student fails to improve the result, the final AW5 grade is “failed” (1), and the grade must be improved during the examination period, as a “B” or “C” chance.

Prerequisites of taking the subject:

Oral Anatomy, Dental Materials, Odontology, Histology and Embriology II.
1st week:
Lecture: The histology of the nervous system. I. The neuron. The histology of the nervous system. II. The neuroglia. Relations of neurons and neuroglial cells. The development of the nervous system – neurohistogenesis. Parts of the nervous system. The development and structure of the spinal cord.
Seminar: See practical.
Practical: a. Dissection of the brain: part one. Demonstration of the cerebral hemispheres and lateral ventricles. Flechsig's cut. Demonstration of the cerebral blood vessels and cisterns. Main steps in the dissection: removing of the membranes is followed by surface demonstration. At the right hemisphere a horizontal section is to be made at the level of corpus callosum. The position of the lateral ventricle can be felt on this side. First the central portion of the lateral ventricle, then its frontal and occipital horns are to be opened. After removing the operculum, the insula and the superior temporal gyrus become visible. Establish the position of the temporal horn with the aid of a probe then open the horn. On the left hemisphere the so-called Flechsig's section is made to explore the basal ganglia. Remove the trunk of the corpus callosum, cut and fold back the fornix. Demonstration of the tela choioidea of the 3rd ventricle. b. Dissection of the brain: part two. The third ventricle, diencephalon. Midsagittal section of the brain. Explore the brainstem by removing the remaining parts of the hemisphere. Demonstration of the midbrain. In order to explore the cerebellar nuclei, a section is made directed from the superior cerebellar peduncle to the ventral surface of the cerebellum. Cut out a wedge-shaped part of the cerebellum for the observation of the 4th ventricle. Make a schematic drawing of the floor of the 4th ventricle. Demonstration of the pons and the medulla. Histology: Nervous tissue 1. Peripheral nerve (HE stain) 2. Peripheral nerve (OsO4 + H stain) 3. Spinal ganglion (HE stain) 4. Sympathetic ganglion (Bielschowsky's silver method) 5. Neuroglia: Astrocyte from cerebral cortex and medulla (Cajal's gold method)

2nd week:
Seminar: See practical.


3rd week:
Seminar: See practical.

4th week:
Lecture: The anatomy of the eye. The muscles of the eyeball, conjunctiva, eyelids, lacrimal apparatus. The oculomotor system. The structure of the retina. The visual pathway. The gross anatomy of the middle ear and the inner ear.
Seminar: See practical.

5th week:
Lecture: The vestibular system. The acoustic system. The taste and olfactory systems.
Seminar: See practical.
ACADEMIC PROGRAM FOR THE 2ND YEAR


6th week:
Lecture: The neuronal excitatory process, roles of the ionic channels. (P) Features and significance of the central excitatory and inhibitory synapses. (P) Basic forms of neuronal interaction in the central nervous system, neuronal integration. (P)

7th week:
Lecture: Metabolism of the central nervous system. (B) Signal propagation and transmission. (B) Postsynaptic mechanisms of neurotransmission. (B) Roles and effects of amine neurotransmitters I. (B) Roles and effects of amine neurotransmitters II. (B) Axonal transport, degeneration, regeneration. (A) Signal transduction in the nervous system. (A) Synaptic and non-synaptic neurotransmission. Interneuronal synapses. Ultrastructure and molecular architecture. (A)

8th week:
Lecture: Receptors. Primary afferents. Sensory functions of the spinal cord. The somatosensory system. The viscerosensory system. General characteristics of the receptors, somato- and viscerosensory functions. (P)

9th week:
Lecture: Physiology of temperature and pain sensation. (P) Neuronal mechanisms of the pain sensation, theoretical background of therapy. (P)

10th week:
Lecture: Signal generation in sensory organs. (B) Information storage. (B)

11th week:
Lecture: Optics of the vision. (P) Retinal mechanism of the vision. (P) Central processing of the visual information. (P) Physiology of the auditory function. (P) Somatomotor functions of the spinal cord. The motor endplate. The motor unit. The spinal motor apparatus. (A) Reflex functions of the spinal cord and brain stem. Proprioceptive reflexes and nociceptive reflexes. (A) The somatomotor system. The hierarchy of the motor system. The basal ganglia and the cerebellum as part of the somatomotor system. (A)

12th week:
Lecture: The visceromotor system. (A) Spinal control of skeletal muscle activity. (P) Vestibular apparatus and movement coordination. (P) Roles of the brain stem and cerebellum in the coordination of movements. (P)

13th week:
Lecture: Roles of the basal ganglia and cerebral cortex in the coordination of movements. (P) Physiology of taste and smell. (P) The monoaminergic system. (A) The limbic system. (A) Central vegetative regulation I. (P) Central vegetative regulation II. (P) EEG, sleep. (P) Learning, memory. (P)

Requirements

The neurobiology course is an integrated one, delivered as a joint effort of three departments (Departments of Anatomy, Histology and Embryology; Biochemistry; Physiology). The educational activities of the Neurobiology course include lectures, seminars and practices. Most of the regulations concerning these activities are specific to the individual departments and will be introduced by the respective education officers.

In the detailed program of the course (which, in fact, corresponds to the list of requirements) as well as here, both the compulsory and suggested textbooks are listed. Note, however, that the requirements of the course include material delivered in the lecture hall only, not necessarily available in the recommended textbooks, while in other cases some information in the suggested textbook is not regarded as part of the exam material.

Attendance of the lectures, seminars and practices is compulsory, although one may have five absences from the lectures and two absences of in the following distribution: neuroanatomy and neurohistology together: two absences; neurophysiology (seminar and practices) two absences together. If one collects six or more lecture absences (regardless of the reason of the absences) all the exam advantages are withdrawn without further notice. In the case of three or more absences from either the practices or seminars, the verification of the lecture book may be refused. Making up the missed seminars and practices may be possible, but the individual departments determine the actual procedure.

During the term, three self-controls (SCs) are organised. If one meets the passing conditions (see below), the end-semester examination may be substituted with the result achieved on the basis of these tests (i.e. exemption of the final exam). The maximum achievable score is 100 points in the following distribution:
CHAPTER 15

Neuroanatomy: 50 points
Neurobiochemistry: 10 points
Neurophysiology: 40 points

The first SC (week 7) is organised by the Department of Anatomy. It has two parts: neurohistology practicum and neuroanatomy oral/practicum. All three departments participate, however, in the second (week 10) and third (week 14) self-controls (both of them are written tests). The first SC can be repeated once, on the 8th week. Either the 2nd or the 3rd SCs may also be repeated at the end of the semester, but not both. In this case, all subjects (neuroanatomy, neurophysiology and neurobiochemistry) of either the 2nd or the 3rd SCs have to be repeated and the previously achieved scores are lost. Any remedial can be made only in the case of the respective regular SCT has been attempted.

The points collected in the frame of the three SCs will be summarised on a subject and departmental basis. If someone collects at least 60 % of the total number of points for all five subjects individually provided by the departments, she/he will be exempted of the end-semester examination (ESE). Please, note that in the case of the Anatomy Department, the 60 % limit is separately applicable for the neurohistology practicum, neuroanatomy oral/practicum and the cumulative written score achieved in the frame of the 2nd and 3rd SCs. If someone fails to reach the 60 % in the case of any of the subjects of a department then the student must take the examination on the appropriate subject(s) during the examination period (the actual dates will be determined later).

If someone reaches the 60 % limit of all departmental scores (i.e. all subjects), the ESE result is calculated as follows:

<table>
<thead>
<tr>
<th>Total number of points</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 59 points</td>
<td>fail</td>
</tr>
<tr>
<td>60 – 69 points</td>
<td>pass</td>
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<tr>
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<tr>
<td>80 – 89 points</td>
<td>good</td>
</tr>
<tr>
<td>90 – 100 points</td>
<td>excellent</td>
</tr>
</tbody>
</table>

If someone wishes to improve the result of her/his ESE, it can be done on any of the exam days (registration is required). Please note, that in this case all previous exam results are lost.

Details of the self-controls on a departmental basis:

**Anatomy** (neuroanatomy, neurohistology):
The total number of points available in the frame of the first SC:
Neurohistology practicum: 10 points
Neuroanatomy oral/practicum: 20 points
If the score of the first SC is less than 60 % (regarding either part of the SC) it can be repeated on the following week.
Additional 20 points can be collected in the frames of the 2nd and 3rd SCs. The preconditions of the exam exemption:
at least 6 points on histology practicum; at least 12 points on neuroanatomy oral/practicum and at least 12 points on the written tests.

**Biochemistry** (neurobiochemistry):
Altogether 10 points can be collected in the frames of the 2nd and 3rd SCs. One must have at least 6 points for the exemption.

**Physiology** (neurophysiology):
Altogether 40 points can be collected in the frames of the 2nd and 3rd SCs. One must have at least 24 points for the exemption. Four extra points can be collected from neurophysiology practicals on the 14th academic week during the Neurophysiology closing lab. In case of a failure there is no possibility of improvement. Nevertheless, the maximum achievable neurophysiology score is 40 points and these extra 4 points are valid only and exclusively in the current academic year (students repeating Neurobiology can register for the end-semester neurophysiology closing lab again.)
Department of Biochemistry and Molecular Biology

Subject: **BIOCHEMISTRY II**.
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 45
Seminar: 15

1st week:
**Practical**: Introduction to the practicals.

2nd week:
**Practical**: Study on blood clotting

3rd week:
**Lecture**: Other phospholipases. cGMP phosphodiesterase sytem. Signaling via one-hydrophobic domain proteins: the cGMP system. Coupling of tyrosin kinase receptors to the signaling pathways, raf, MAP kinases. Metabolic effects of insulin.
**Practical**: Study on blood clotting

4th week:
**Lecture**: Signals acting via cytoplasmatic targets: the NO system. Coupling of signaling pathways to the regulation of genes and to the actin filament movement. Nuclear receptors. Signal crosstalks.
**Practical**: Study on blood clotting

5th week:
**Practical**: Fractionation and quantitative determination of plasma proteins.

6th week:

Practical: Fractionation and quantitative determination of plasma proteins.

7th week:
**Practical**: Fractionation and quantitative determination of plasma proteins.

8th week:
**Lecture**: Biochemistry of the liver. Biotransformation. Biochemical consequences of ethanol consumption.
**Practical**: Study on neurotransmitters

9th week:
**Practical**: Study on neurotransmitters

10th week:
**Practical**: Study on neurotransmitters

11th week:
**Lecture**: Cellular, humoral and vascular aspects of blood clotting. Structure, activation, adhesion and aggregation of thrombocytes. Classification of blood clotting factors and their role. Factors depending on vitamin K.
**Practical**: Evaluation of the results of practicals. Control test. Visit of the department.

12th week:
**Lecture**: Contact phase of blood coagulation. Blood clotting in the test tube and in the body. Classification of blood coagulation. Role of thrombocytes and the vascular
CHAPTER 15
endothel. Limiting factors, inhibitors and activators of blood coagulation. Fibrinolysis.

13th week:

14th week:
Lecture: Molecular determinant of tooth development.


15th week:

Requirements

Content of Biochemistry II.: topics of cell- and organ biochemistry presented at the lectures (available at the http://bmbi.med.unideb.hu web site, username: student, password: student2015) and discussed on the seminars.

Requirements for signing the subject: participation in the seminars and in the obligatory lectures (see the list of the obligatory lectures on the back page). Only one absence is accepted from the obligatory lectures; in case of more absences the semester will not be signed.

On the seminars the lectures of the previous week can be discussed. New scientific information, connected to the lectures will also be presented on the seminars; this material will be asked on the exams, too. The most prepared students can collect 6 bonus points on the seminars (6 bonus points can be given to max. 10 % of the students, 3 bonus points can be given to max 30 % of the students). In case of the seminars maximum three absences are accepted. Students can’t make up a seminar with another group. Seminars are not obligatory for repeaters. There is no practice in this semester!

Achievement during the semester will be evaluated in term of points. During the semester 100 + 6 points can be collected by the control tests from the material of the lectures (75 points). Control tests consist of single- and multiple choice test questions. (The control tests contain all together 75 test questions, each for 1 point. The result will be multiplied by 1,33 points to get the max. 100 points). Bonus points earned by seminar activity will be added to the total points collected during the semester (half of these bonus points can be added to the result of the written exam.)

Those students who finally reach 65 points in this semester, will get further 5 bonus points, those who reach 75 points will get further 8 bonus points that will be added to the results of the written part of the exam. Further bonus points can be collected with good results on the biochemistry competition. Semester points will be automatically erased of those students, who break the rules of test writings.

Those students, who reaches at least 210 points during the three semesters (Molecular Biology, Biochemistry I., II.), will be exempted from the written part of the final exam (for this exemption at least 55 points must be collected separately in each semester).

Final exam. The final exam consists of a written and oral part for everyone. The written exam consists of single- and multiple choice test questions: 25 from “Cell- and organ biochemistry” and 5 from “Dentist biochemistry”, each for 1 point. (Collected points will be multiplied by 1,66, so you can collect maximum 50 points with the written exam).

Oral exam can be taken only if the student collects at least 60 % (30 points) in the written part. The successful result of the written part is valid for the “B” and “C” exams. In case of unsuccessful written “C” exam, students will get oral questions, too.

The oral part of the examination starts with a question of „medical orientation and basic metabolism”, which should be answered immediately. The list of these questions will be given to students at the beginning of the second semester together with the exam titles of the final exam. After properly answering the medical question, students will have two theoretical questions (from cell- and from organ biochemistry).

Students must register for the exams on the NEPTUN until the end of the 15th week.

Please follow the announcements of the department on the announcement table (LSB downstairs 1st corridor), and on the website (http://bmbi.med.unideb.hu)
Department of Foreign Languages

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

1st week:
Practical: Revision.

2nd week:
Practical: Pretest.

3rd week:
Practical: Unit 11

4th week:
Practical: Unit 13

5th week:
Practical: Unit 13

6th week:
Practical: Unit 14/1

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

8th week:
Practical: Unit 14/2

9th week:
Practical: Unit 14/3

10th week:
Practical: Unit 15

11th week:
Practical: Unit 15

12th week:
Practical: Unit 16

13th week:
Practical: Unit 16

14th week:

15th week:

Requirements

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

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

The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests.

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

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

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

Subject: **DENTAL PHYSIOLOGY II.**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 33
Seminar: 22

1st week:
**Lecture:** Neural regulation of gastrointestinal functions.
Endocrine and paracrine regulation of gastrointestinal functions. Motor functions of the gastrointestinal tract

2nd week:
**Lecture:** Secretion of saliva and gastric juice. Exocrine functions of pancreas, liver and intestines. Absorption of nutrients

3rd week:
**Lecture:** Food intake and its regulation. Energy balance
Regulation of body temperature

4th week:
**Lecture:** Stem cell

5th week:
**Lecture:** Quantitative description of kidney functions.
Glomerular filtration. Tubular transports

6th week:
**Lecture:** Urinary concentration & dilution. Water-balance, osmoregulation. Control of body fluid volume

7th week:
**Lecture:** Acid-base balance. Acid-base disturbances, Ca2+ homeostasis I.K-homeostasis. Micturition

8th week:
**Lecture:** Ca2+ homeostasis II., Physiology of bone.
Hormones of the skin

9th week:
**Lecture:** General principles of endocrinology.
Hypothalamus-pituitary system, Growth hormone. The hormones of adrenal medulla

10th week:
**Lecture:** The thyroid gland. The hormones of adrenal cortex. The hormones of pancreatic islets

11th week:
**Lecture:** Regulation of the function of pancreatic islets.
General principles in the regulation of gonadal functions. Female & Male gonadal functions

**Requirements**

1. **Signature of Lecture Book**
   Attendance of lectures and seminars is compulsory. The signature of the Lecture Book may be refused for the semester in case of more than four absences from the seminars. The completion of a missed seminar with a different group is not possible.
   In cases of more than two lecture absences these special advantages are withdrawn (see below).
   Each student must attend seminars with the group specified by the Education Office. For continuous updates on all education-related matters, please check the departmental web-site (http://phys.dote.hu)
   The lectures of Dental Physiology II. are listed at the web site of the Department of Physiology (http://phys.dote.hu)

2. **Evaluation during the semester**
   The knowledge of students will be tested 3 times during the 2nd semester in the form of a written test (multiple choice questions). Participation on mid-semester written tests is compulsory and the results of all mid-semester tests will be presented to the examiner during the final exam. During this semester there will be no remedial test. We do not provide any possibilities to improve or make-up for missed tests.

3. **Examination**
   The second semester is closed by the final exam (FE), which is composed of a written test plus an oral section, covering
the topics of all lectures, seminars and laboratory practices of the full academic year. The result of the exam is failed if the student fails either on the written part or on the oral part. The list of exam questions is available on the departmental website (http://phys.dote.hu).

Depending on the average result of the five self-controls of 2015/2016 academic year, the following special advantages are granted:

The average score of the six mid term tests (three in the first term and three in the second semester) is calculated. (If one took the end-semester examination, the calculation of his/her average is detailed below.)

a). If the average score is 80% or higher, there is no need to take the written part of the final exam, and only the oral examination will be performed.
b). If the average score is between 70% and 80%, 10 bonus points will be added to the result of the written part of the final examination.
c). If the average score is between 60% and 70%, 5 bonus points will be awarded.

- If the Department of Physiology refuses to sign the lecture book or in cases of more than two lecture absences these special advantages are withdrawn!

- If the result of the written examination together with the bonus points does not reach the 60% limit, the examination attempt will be regarded as a failed exam, without giving the chance to perform the oral part.

If one took the end-semester examination during the 2015/2016 academic year, the mark of the oral exam is converted into percentage scores in the following way (each 1st term self-control will be replaced with these percentage scores):

- If the end-semester examination was taken in order to improve on a otherwise valid grade, the conversion is: 2: 69%; 3: 79%; 4: 89%; and 5: 100%.
- If the examination was attempted because no score could be offered (i.e. one had to take the exam), the conversion is: 2: 65%; 3: 75%; 4: 85%; 5: 95%.


CHAPTER 16
ACADEMIC PROGRAM FOR THE 3RD YEAR

Department of Biomaterials and Prosthetic Dentistry

Subject: PROPEDEUTICS AND TECHNOLOGY OF FIXED PROSTHODONTICS
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 60

1st week:
Lecture: Tooth preparation for crown.
Practical: Demonstration of tooth preparation. Preparation of molar tooth in hand.

2nd week:
Lecture: Anamnesis, types of fixed prosthesis. Treatment planning
Practical: Demonstration of tooth preparation. Preparation of premolar and canines in hand.

3rd week:
Lecture: Impression making for fixed prosthesis
Practical: Tooth preparation in phantom head.

4th week:
Lecture: Types of crown, Clinical and laboratory phases.
Practical: Tooth preparation in phantom head.

5th week:
Lecture: Clinical and laboratory phases of bridge fabrication.
Practical: Preparation for bridge. Impression making. Making the removable die.

6th week:
Practical: Making of wax pattern of bridge. Part I.

7th week:
Lecture: Processing of metals, trying of the framework.
Practical: Making of wax pattern of bridge. Part II.

8th week:
Lecture: Processing of ceramics and polymers of FPD.
Practical: Investment, casting. Preparation in phantom head.

9th week:
Lecture: Possible mistakes during of the clinical phases of fabrication of fixed prosthesis.
Practical: Processing of the framework. Part I.

10th week:
Lecture: Provisional restorations.
Practical: Processing of the framework. Part II.

11th week:
Lecture: Possible mistakes during of fabrication of fixed prosthesis.
Practical: Making a provisional restoration.

12th week:
Lecture: Severely destroyed and periodontally weakened teeth (inlay, onlay).
Practical: Preparation for inlay. Self control II.
Self Control Test

13th week:
Lecture: Post and core restorations.

14th week:
Lecture: Mistakes of preparation.
Practical: Tooth preparation in phantom head.

15th week:
Lecture: Consultation.
Practical: Tooth preparation in phantom head.

Requirements

Conditions of signature in the lecture book:
The students are required to attend the practices.
Lectures: As given in the timetable (time and place)
Practices: In the building of Faculty of Dentistry (Phantom lab.)
- The ratio of missed practices cannot exceed 1 practice, even it is certificated.
- There is no possibility to compensate the missed practices.
- The practical work will be evaluated at the end of each practice separately, as 'accepted' or 'not-accepted'. The number
of accepted practices must be above 70% of practices.
- Missed practice is 'not-accepted'.
- At least 2 written or oral self-control tests will be held during the semester, according to the time-table. More self-control tests can be held without any notification. The result of the missed self-control is 'fail'.
- The result of one of the self-controls can be improved as a remedial during the 15th week of the semester.
- If the average of the results of the self-controls reaches the minimum average of 3,51, (3,51-4,5 good; 4,51-5 excellent) will be offered as the grade of the ESE. Students are not obliged to accept the grade offered and may opt for taking an examination.

**Department of Foreign Languages**

Subject: **HUNGARIAN LANGUAGE III/1.**  
Year, Semester: 3rd year/1st semester  
Number of teaching hours:  
Practical: 30

|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|

**Requirements**

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

**Testing, evaluation**  
In Medical Hungarian course, students have to sit for a mid-term and an end-term written and oral language tests and at the end of the semester a final exam. Further minimum requirement is the knowledge of 200 words in each semester announced on the first week. Every week there is a (written or oral) word quiz from 20 words in the first 5-10 minutes of the class. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam from all the 200 words along with the oral minimum exam. The results of word quizzes are added to the average score of the written tests. The oral minimum exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral minimum results in failing the whole course. The result of the oral minimum
exam is added to the average of the mid-term and end-term tests. Based on the final score the grades are given according to the following table:

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<tr>
<td>80-89</td>
<td>good (4)</td>
</tr>
<tr>
<td>90-100</td>
<td>excellent (5)</td>
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</table>

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

**Consultation classes**

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

Coursebook: Kovács, Judit: A fogászati szaknyelv alapjai

Website: Vocabulary minimum lists and further details are available on the website of the Department of Foreign Languages: ilekt.med.unideb.hu.

**Department of Immunology**

Subject: IMMUNOLOGY

Year, Semester: 3rd year/1st semester

Number of teaching hours:

Lecture: 40
Seminar: 11

1st week:

**Lecture:** Elements of the immune system and their role in defense against pathogens. Components, characteristics and function of the innate response. Components, characteristics and function of the acquired immune response.

**Seminar:** Elements of the immune system and their role in defense against pathogens. The structure and function of the immune system, cells and molecules of innate immunity.

2nd week:

**Lecture:** Characteristics of the acquired immune response. T-lymphocytes, B-lymphocytes.

**Seminar:** Characteristics of the adaptive response, T- and B-lymphocytes.

3rd week:

**Lecture:** An introduction to antibody structure and function. The structure of lymphoid tissues and organs, tissue stem cells. Lymphatic circulation, immune surveillance by re-circulation of immunocytes within the immune system.

**Seminar:** Antibody isotypes, Effector functions of antibodies. The structure of lymphoid tissues and organs. Recirculation of immunocytes within the immune system.

4th week:

**Lecture:** Recognition and elimination of pathogens by the innate arm of the immune system. Inflammation and the acute phase response. The complement system.

5th week:

**Lecture:** Molecular basis of antigen recognition by antibodies and B-cells. Generation of B-cell receptor diversity. Antigen-independent differentiation of B-lymphocytes.

**Seminar:** Molecular basis of antigen recognition by antibodies and B-cells. Generation of B-cell receptor diversity. Antigen-independent differentiation of B-lymphocytes.

**Self Control Test**

6th week:

**Lecture:** Structure and function of proteins encoded by the major histocompatibility (MHC) gene complex. Genetics of MHC. Processing and presentation of antigens.

**Seminar:** The role of MHC gene complex-encoded proteins in the adaptive immune response. Antigen processing and presentation.

7th week:

**Lecture:** Professional antigen presenting cells. The molecular basis of antigen recognition by T-lymphocytes. T-cell development central tolerance.

**Seminar:** The molecular basis of antigen recognition by T-lymphocytes. T-cell development central tolerance.

8th week:

**Lecture:** Requirements and consequences of T-cell activation. Activation and function of cytotoxic T-lymphocytes.

**Seminar:** T-cell activation, T-cell subsets, effector
function of T-cells.

Self Control Test

9th week:
Lecture: Antigen-dependent differentiation of B-lymphocytes. B-cell activation. Production of various antibody isotypes and their functions. The function of regulatory T-cells.

10th week:
Lecture: Mechanisms of peripheral tolerance. The primary and secondary immune response. The development of immunological memory.
Seminar: Mechanisms of peripheral immune tolerance. The role of regulatory T-cells.

11th week:
Lecture: The immune response to extracellular pathogens. The immune response to intracellular pathogens. Immune response to viral infection.

Seminar: Immune response in response to various types of infections.
Self Control Test

12th week:

13th week:
Lecture: A hypersensitivity reactions, Type I hypersensitivity (Allergy). Hypersensitivity reactions, Type II-IV hypersensitivity. Mechanisms of the development of autoimmune diseases.

14th week:
Lecture: Characteristics of the most common autoimmune diseases.

Requirements

Signing of the Lecture Book
Participation in the Seminars is obligatory. The Department shall refuse to sign the students' Lecture book if they are absent from more than two seminars in a semester. Students can make up for a missed seminar with another group only within the same week.

Examination
To follow the progress of students two self control test (SCT) will be organised (weeks 3 and 11). The first SCT contains material of the first three weeks' introductory lectures and seminars. Student need to score 70% or higher to qualify for the next SCT. The second SCT contains questions about the material of lectures and seminars given between weeks 4 and 10. The hole material of the 40 lectures and 11 seminars will be asked on the oral exam during the exam period.
Students who score an average of 51% or above on the second SCT will be offered a grade that they may accept as a grade for their end-term exam. Those student who score below 70% on the first or below 51% on the second SCT must take a written entry test before the oral exam. The entry test includes 10 simple choice questions.
Student "B" exam consists of a written entry test and an oral exam. The list of exam topics is available on the departmental website (www.immunology.unideb.hu).

Department of Laboratory Medicine

Subject: CLINICAL BIOCHEMISTRY I.
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 8
Practical: 6

1st week:
Lecture: 1. Introduction: pathobiochemistry, clinical chemistry, laboratory diagnostics 2. Different levels of laboratory diagnostics (reference values, requesting test, interpretation of results)

2nd week:
Lecture: 3. Pathochemistry and laboratory signs of cell damage 4. Pathobiochemistry of inflammation

10th week:
Lecture: 5. History of blood transfusion, blood group serology

11th week:
Lecture: 6. Biochemistry, inheritance and antigens of
CHAPTER 16

ABO blood group system and its clinical significance 7.
Biochemistry, inheritance and antigens of Rh blood group
system and its clinical significance

12th week:
Lecture: 8. Other blood group system (Kell, Kidd, Duffy,
MN, Ss, Li)

14th week:
Practical: Transfusiology: ABO and Rh blood group
determination.

15th week:
Practical: Detection of irregular antibodies: antibody
screening and compatibility testing.

Requirements

Participation in practices is obligatory. In case of further absences practices should be made up for by attending
the practicals with another group on the same week, or a medical certificate needs to be presented. Please note that strictly
only a maximum of 3 students are allowed to join another group to make up for an absence.
Requirements for signing the Lecture book: The Department may refuse to sign the Lecture book if the student is
absent from practices.
Assessment: At the end of the first and second semester there is a written examination (test) assessed by a five grade
evaluation.
Requirements for examinations: The examination is based on the lecture and practical material (Practicals in
Laboratory Medicine, eds.: János Kappelmayer and László Muszbek, 2010) as well as the relevant chapters from the

Department of Medical Microbiology

Subject: DENTAL MICROBIOLOGY
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 30
Practical: 30

1st week:
Lecture: 1. The science of microbiology. Major groups of
microorganisms. Prokaryotic taxonomy and cell structure.
2. Morphology and physiology of bacteria. Bacterial
genetics. Pathogenesis and infection.
Practical: Laboratory safety instructions. Bacterial
morphology: unstained and stained specimens.

2nd week:
Lecture: 3. Host defenses against bacteria.
4. Immunization, vaccines.
Practical: Collection of clinical samples. Culture of
bacteria. Anaerobic cultures.

3rd week:
Lecture: 5. Sterilization and disinfection.
Practical: Examination of biochemical activity of bacteria.

4th week:
Lecture: 7. Gram positive cocci (Staphylococcus,
Streptococcus).
8. Gram positive rods (Corynebacterium, Lactobacillus).
Practical: Sterilization and disinfection.

5th week:
10. Actinomyces, acid fast bacteria (Mycobacterium,
Nocardia).
Practical: Determination of antibiotic sensitivity of
bacteria.

6th week:
12. The oral microflora.
Practical: Microbiological diagnostics: immunological
and molecular methods.

7th week:
Practical: Diagnostics Gram positive and Gram negative
cocci. Bacillus genus.

8th week:
Lecture: 15. Periodontal diseases.
Practical: Mycobacteria.

9th week:
Practical: Anaerobic infections. Spirochetes.

10th week:
Lecture: 19. Antifungal chemotherapy.
ACADEMIC PROGRAM FOR THE 3RD YEAR

20. Protozoal diseases, oral protozoal flora.  
Practical: Enterobacteriaceae.

11th week: 
22. Replication strategies of viruses.  
Practical: Diagnosis of fungal infections.

12th week: 
Lecture: 23. Host defenses against viruses.  
24. Virus vaccines, antiviral drugs.  
Practical: Protozoal diagnostics, chemotherapy of protozoal infections.

13th week: 

14th week: 
28. Influenza, paramyxoviruses, picornaviruses, rubella, arbo- and roboviruses.  
Practical: Diagnosis of viral infections relevant in dentistry.

15th week: 
30. Cross-infections in dentistry.  
Practical: Consultation.

Requirements

Participation in the practical courses is obligatory. The Department may refuse to sign the students’ Lecture book if they are absent from more than two practices or seminars in a semester. At the end of the semester the student is required to take a final examination (consists of a written entry test and an oral examination) based on the whole material (lectures, practices and book) taught in the Microbiology for Dentistry course.

Department of Pathology

Subject: PATHOLOGY I.  
Year, Semester: 3rd year/1st semester  
Number of teaching hours:  
Lecture: 33  
Practical: 45

1st week: 
Lecture: INTRODUCTION TO ANATOMICAL PATHOLOGY-SURGICAL PATHOLOGY: METHODS AND REPORTING  
Practical: Introduction

2nd week: 
Lecture: ADAPTATION AT CELLULAR LEVEL-MORPHOLOGY OF THE REVERSIBLE CELL INJURY AND CELL DEATH (SWELLING, FATTY CHANGE AND NECROSIS)  

3rd week: 
Lecture: ABNORMAL GLYCOGEN AND PROTEIN ACCUMULATION. STORAGE DISEASES. AMYLOIDOSIS. PIGMENTS-TISSUE REGENERATION. REPARATION AND WOUND HEALING. CALCIFICATION  

4th week: 
Lecture: HAEMORRHAGE, THROMBOSIS, EMBOLISM. DISSEMINATED INTRAVASCULAR COAGULATION-EDEMA. HYPERAEMIA. CONGESTION, SHOCK  

5th week: 
Lecture: MORPHOLOGIC PATTERNS OF THE ACUTE INFLAMMATORY RESPONSE-THE ROLE OF MACROPHAGES IN INFLAMMATION. GRANULOMATOUS INFLAMMATION  

6th week: 
Lecture: DYSPLASIA, PRENEOPLASTIC CONDITIONS-CHARACTERISTICS OF TUMOR CELL POPULATIONS (CLONALITY, HETEROGENEITY AND PROGRESSION)
CHAPTER 16


7th week:
Lecture: CHARACTERISTICS OF BENIGN AND MALIGNANT TUMORS. DIFFERENTIATION AND ANAPLASIA-TUMOR DIGNITY. PROLIFERATION. GRADING AND STAGING

8th week:
Lecture: DIAGNOSTIC IMMUNOHISTOCHEMISTRY. MARKERS OF DIFFERENTIATION-PROGNOSTIC AND PREDICTIVE TUMOR MARKERS

9th week:
Lecture: MECHANISMS OF LOCAL AND DISTANT TUMOR SPREAD. ANGIOGENESIS-THE BIOLOGY OF TUMOR GROWTH. HEREDITY IN CANCER

10th week:
Lecture: OPPORTUNISTIC INFECTIONS EFFECTS OF NEOPLASIA SYSTEMIC (CACHEXIA, IMMUNOSUPPRESSION. PARANEOPLASTIC SYNDROMES)-HUMORAL AND CELLULAR IMMUNOPATHOLOGICAL MECHANISMS

11th week:
Lecture: IMMUNODEFICIENCIES. TUBERCULOSIS-THE PATHOLOGY OF TRANSPLANTATION. AUTOIMMUNITY

12th week:
Lecture: SYSTEMIC AUTOIMMUNE DISEASES (SLE, SJÖGREN’S, RA, SS)-VASCULITIS

13th week:
Lecture: MONO- AND POLYGENIC DISORDERS .PATHOLOGY OF THE LYMPHATIC SYSTEM

14th week:
Lecture: MALIGNANT LYMPHOMAS-LEUKEMIAS

15th week:
Lecture: AML. CHRONIC MYEOPROLIFERATIVE DISORDERS -MYELODYSPLASIA. ANAEMIAS

Requirements

Validation of semester in Pathology:
Missing two practicals (histopathology and gross pathology together) is tolerable. Intracurricular replacement of histopathological and/or gross pathological classes is possible on the same week.

Examination:
On the 15th week written and practical exams on both semester (these exams are parts of the ESE and FE - the student is released from the written and/or practical part of ESE or FE if her/his evaluation is: pass). In case of failure student can repeat these parts of the exam during the exam period.

At the end of the 1st semester the student is required to take End of Semester Examination (ESE) based on the material taught in the semester.

Exam consists of: written, practical exam (15th week) and theoretical parts. The student gets 10 minimal questions (can be found on the Department's website). On the 2nd semester four questions from the 1st and the 2nd semester minimals a 6 dentistry questions. The student has to reach 70% to pass this part of the exam.

The practical exam takes place in the autopsy room. An acceptable result in the practical exam is mandatory to apply for the oral part. During the theoretical exam 3 titles are to be worked out and presented orally and one photo about a
slide (with different magnifications) has to be described and diagnosed also orally. The knowledge of students is assessed on a five-grade evaluation scale.

At the end of the 2nd semester the student is required to take Final Exam (FE). Exam consists of: written, practical (15th week) and theoretical parts. The practical exam is same as above. During the theoretical exam three titles are to be worked out (one from the material of the 1st semester, one from the material of the 2nd semester, and one dentistry topic). One photo about a slide (with different magnifications) has to be described and diagnosed (from the whole year – dentistry slides included). At least a (2) level of gross pathological examination and recognition of the histopathological alteration achieved in the course of a previous unsuccessful examination are acceptable without repeating on the next (B or C chance) examination.

For further information: http://pathol.med.unideb.hu

### Department of Periodontology

**Subject:** PERIODONTOLOGY PROPEDEUTICS I.
**Year, Semester:** 3rd year/1st semester
**Number of teaching hours:**
- Lecture: 2
- Practical: 8

<table>
<thead>
<tr>
<th>1st week</th>
<th>11th week</th>
<th>12th week</th>
<th>13th week</th>
<th>14th week</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Anatomy and physiology of periodontium, tooth surface deposits, bacterial biofilm</td>
<td><strong>Lecture:</strong> Anatomy and physiology of periodontium</td>
<td><strong>Practical:</strong> Tooth surface deposits, bacterial biofilm</td>
<td><strong>Lecture:</strong> Etiology and pathogenesis of periodontal diseases</td>
<td><strong>Practical:</strong> Hand instrumentation, scaling technique for hand instrumentation</td>
</tr>
<tr>
<td><strong>Practical:</strong> Fundamentals of periodontal instrumentation I. (math principles, positioning, instrument grasp, anterior rests, mandibular posterior rests)</td>
<td><strong>Practical:</strong> Periodontal examination (case history, clinical examination, radiography)</td>
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<td><strong>Practical:</strong> Oral hygiene, motivation, disclosing agents, plaque and gingival indices</td>
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<tr>
<th>2nd week</th>
<th>3rd week</th>
<th>4th week</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Periodontal examination, oral hygiene motivation, disclosing agents, plaque and gingival indices</td>
<td><strong>Practical:</strong> Fundamentals of periodontal instrumentation II. (maxillary posterior rests, design, adaptation-angulations, activation, instrumentation strokes)</td>
<td><strong>Practical:</strong> Fundamentals of periodontal instrumentation IV. (universal curets, area-specific curets, instrumentation strategies and patient cases)</td>
</tr>
<tr>
<td><strong>Practical:</strong> Fundamentals of periodontal instrumentation III. (probe: basic, explorers, debridement concepts, sickle scalers, periodontal files)</td>
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### Requirements

The aims and objectives of this course:
- learning the basic anatomy and physiology of periodontium
- have knowledge and understanding of the etiology of periodontal diseases
- fundamental characteristics of plaque-induced gingivitis and chronic periodontitis
- achieve basic knowledge about periodontal hand scaling instruments
- practice a root surface debridement on phantom head prior to seeing their first patient on the clinical sessions

Student attendance is mandatory and a record is taken at each practice. The Department may refuse to sign the students’ Lecture book if they are absent from more than 20% of all practical lessons in a semester.

**REQUIREMENTS:**
- Lectures: As given in the timetable (time & place)
- Practices: In the building of Faculty of Dentistry (Phantom lab.)
- Conditions of signature in the lecture book:
  - active participation in practices
CHAPTER 16

- no more absence than 20%
Assessment: written exam (5 grade)
Compulsory reading:
- lectures and practices materials (handouts are available)

Prerequisites: Biochemistry, Odontology, Dental materials

Department of Restorative Dentistry

Subject: ORAL BIOLOGY
Year, Semester: 3rd year/1st semester
Number of teaching hours:
   Lecture: 15
   Seminar: 15

1st week:
   Lecture: Craniofacial development.
   Seminar: Film on craniofacial development.

2nd week:
   Lecture: Amelogenesis.
   Seminar: Written test. The mineral component of dental hard tissues.

3rd week:
   Lecture: Dentinogenesis.
   Seminar: The fibres and extracellular matrix in calcified dental tissues.

4th week:
   Lecture: Pain due to dentin sensitivity.
   Seminar: Dentin permeability.

5th week:
   Lecture: Tooth displacement, jaw remodelling.
   Seminar: Cementogenesis.

6th week:
   Seminar: Blood and nerve supply to the pulp.

7th week:
   Lecture: Eruption.
   Seminar: Discussion of the eruption.

8th week:
   Lecture: The salivary glands.
   Seminar: Composition of saliva.

9th week:
   Seminar: Dental plaque and calculus.

10th week:
   Lecture: Temporomandibular joint (TMJ).
   Seminar: Discussion of the TMJ.

11th week:
   Lecture: Mastication and deglutition.
   Seminar: Speech.

12th week:
   Seminar: Taste.

13th week:
   Lecture: Nutrition and diet in relation to oral health.
   Seminar: Vitamins.

14th week:
   Lecture: Metabolism of fluoride.
   Seminar: Toxic effects of fluoride.

15th week:
   Lecture: The general concept of ageing. The ageing mouth.
   Seminar: Effects of ageing in relation to the mouth (hard and soft tissues, oral functions).

Requirements

Requirements for signing the lecture book:
The seminars start and finish in accordance with the timetable, arriving late is not allowed.
Students are required to stay at the premises of the seminar from the beginning to the end of the class.
Missed classes cannot be more than 2 out of the total seminar classes.
A certification is required for any absences which has to be handed to the leader of the seminar course.
Missed classes cannot be made up for.
During the semester, in accordance with the course requirements there is 1 written test. Missed test result in a fail (1)
grade.
The results of the written test impact on the outcome of the semester exam.
Examination: at the end of the mid Semester.

**Requirements for taking up the subject:**
Odontology, Dental Physiology II, Anatomy, histology embriology II

Subject: **RESTORATIVE DENTISTRY PROPEDEUTICS I. (CARIOLOGY)**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 45

<table>
<thead>
<tr>
<th>1st week:</th>
<th>8th week:</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Dental caries characteristics, hystopathology. Handpieces, hand instruments, burs. (used in Phantom lab)</td>
<td><strong>Lecture:</strong> Composites</td>
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<tr>
<th>2nd week:</th>
<th>9th week:</th>
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<tr>
<td><strong>Lecture:</strong> Class I. cavity preparation. for amalgam restoration. Lower and upper premolars and molars.</td>
<td><strong>Lecture:</strong> Preparation for composite restorations. Conventional, modified conventional, and minimal invasive preparation techniques. Preparation of cavity class III., IV., V. for composite restorations. Lower and upper incisor, canine cases.</td>
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<tr>
<td><strong>Practical:</strong> Introduction of dental materials. Mixing, insertion and usage of the dental materials in practice.</td>
<td><strong>Practical:</strong> Preparation of cavity class III., IV., V. for composite restorations.</td>
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<tr>
<th>3rd week:</th>
<th>10th week:</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Black's cavity and caries classification, nomenclature. Basic rules of cavity preparation.</td>
<td><strong>Lecture:</strong> Preparation of cavity class I., II., VI. for composite restorations. Lower and upper premolar molar cases.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Preparation of cavity class I. for amalgam restoration.</td>
<td><strong>Practical:</strong> Preparation of cavity class I., II., for composite restorations.</td>
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<tr>
<th>4th week:</th>
<th>11th week:</th>
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<tr>
<td><strong>Lecture:</strong> Preparation of cavity class II. for amalgam restoration. Lower and upper premolar cases.</td>
<td><strong>Lecture:</strong> Adhesive technique. Adhesion on the enamel surface. Adhesives. Composite restoration in cavity class III., IV. cases.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Preparation of cavity class II. for amalgam restoration.</td>
<td><strong>Practical:</strong> Composite restoration in cavity class III., V.</td>
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<tr>
<th>5th week:</th>
<th>12th week:</th>
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<tr>
<td><strong>Lecture:</strong> Matrices, retainers, wedge placement. Separation of the teeth. The protective role of liners and bases.</td>
<td><strong>Lecture:</strong> Composite restoration in cavity class I., II., VI. cases.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Placement of liners and bases. Amalgam restoration in cavity class I. case. Matrices and retainers.</td>
<td><strong>Practical:</strong> Composite restoration in cavity class I., II.</td>
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<tr>
<th>6th week:</th>
<th>13th week:</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Amalgam restorations in cavity class I. II. cases. Finishing, polishing of amalgam restorations.</td>
<td><strong>Lecture:</strong> Self control test.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Amalgam restoration in cavity class II. case. Finishing, polishing the amalgam restorations.</td>
<td><strong>Practical:</strong> Composite restoration in cavity class IV.</td>
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<th>7th week:</th>
<th>14th week:</th>
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<tr>
<td><strong>Lecture:</strong> Preparation of cavity class V., IV. for amalgam restoration. Lower and upper premolar and molar cases. Amalgam restorations in cavity class V., VI. cases</td>
<td><strong>Lecture:</strong> Diagnostic possibilities of dental caries.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Preparation of cavity class V. for amalgam restoration. Placement of amalgam in cavity class V. cases.</td>
<td><strong>Practical:</strong> Amalgam and composite restorations in real teeth. Removal of the caries.</td>
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<tr>
<th>8th week:</th>
<th>15th week:</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Composites</td>
<td><strong>Lecture:</strong> Registration of dental status, documentation. Making a problem orientated treatment plan.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Mirror using techniques. Insertion of temporary restorative material. Cavity preparation in real tooth, removal of the caries.</td>
<td><strong>Practical:</strong> Practical exam.</td>
</tr>
</tbody>
</table>
Requirements

Examination: Five grade (AW5) practical grade evaluation.

Requirements for signing the lecture book:
• During the semester in accordance with the course requirements there is 1 written test that takes place during a lecture. There is a chance of improvement of this written test on the 15th week of the semester. There can be more tests without any previous notification during the practices. The results of these impact on the evaluation of the daily work. Result of any missed tests conclude to a fail (1) grade.
• The practices start and finish in accordance with the timetable, arriving late is not allowed.
• Students are required to stay at the premises of the practical from the beginning to the end of the class and participate actively in the practical work.
• Missed classes cannot be more than 20% of the total practice classes.
• A certification is required for any absences which has to be handed to the leader of the practice course.
• Missed classes cannot be made up for.
• At the end of each practical, student’s work is evaluated with a grade. For signing a lecture book it is required to have more than 70% passed (2) grades.
• Each part of the practical is evaluated with a grade. In case of a failed part of the practical, the whole practical is evaluated as failed!
• Any missed practices result in a fail grade.
• On the 15th week student is required to take a practical exam.

Grade formation:
• The average of the grades of the 15 week practice classes, +
• The average of the written tests during the practices, and the result of the written test taken during a lecture, +
• The result of the practical exam, (an average of the grades) the mean of these grades gives the final AW5 grade.

Requirements for taking up the subject: Odontology, Dental Physiology II, Oral Anatomy, Histology and Embriology II.

Department of Biomaterials and Prosthetic Dentistry

Subject: PROPEDEUTICS AND TECHNOLOGY OF TOTAL AND PARTIAL REMOVABLE DENTURES
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 60

1st week:
Lecture: Impressions for total dentures. Preliminary impression and cast.

2nd week:
Lecture: Basic clinical anatomy.
Practical: Making casts. Clinical anatomy, identifying anatomical parts of the cast.

3rd week:
Lecture: Final impression and cast.
Practical: Video about final impression. Materials used for final impression.

4th week:
Lecture: Centric relation position. Occlusal rims.
Practical: Determining the borderline of the denture on the cast. Fabricating occlusal rims.

5th week:
Lecture: Arranging artificial teeth. Try-in. Processing the denture.
Practical: Fabricating occlusal rims. Determining the centric relation position in the phantom-head.

6th week:
Lecture: Clinical aspects of total denture treatment. Patient examination, detentional factors for total denture.
Practical: Arranging artificial teeth I.
Self Control Test

7th week:
ACADEMIC PROGRAM FOR THE 3RD YEAR

Practical: Arranging artificial teeth II.

8th week:
Lecture: Causes and consequences of partially edentouism. Classification of the partially edentulous ridges I.
Practical: Test.

9th week:
Lecture: Classification of the partially edentalous ridges II.

10th week:
Lecture: Removable partial dentures. Components of the removable partial denture and function of the parts.
Practical: Fabricating occlusal rims for the partially edentulous phantom-head.

11th week:
Lecture: Support and anchorage of the denture. Clasp retention.
Practical: Determining the centric relation position in the partially edentulous phantom-head.

12th week:
Practical: Test.

13th week:
Lecture: Mixed prosthodontics. Special attachments.
Practical: Planning of the partial denture, wzx-pattern. Demonstration of technical phases.

14th week:
Practical: Denture repair.

15th week:
Lecture: Consultation.
Practical: Remedial test.

Requirements

The students are required to attend the practices.
Lectures: As given in the timetable (time and place).
Practices: In the building of Faculty of Dentistry (Phantom lab.).

Conditions of signature in the lecture book:
- The ratio of missed practices cannot exceed 20%, even if it is certificated.
- There is no possibility to compensate the missed practices.
- The practical work will be evaluated at the end of each practice separately, as ‘accepted’ or 'not-accepted'. The number of accepted practices must be above 50% of practices.
- Missed practice is 'not-accepted'.
- At least two written or oral self-control tests will be held during the semester, according to the timetable. More self-control tests can be held without any notification. The result of the missed self-control is 'fail'.
- The result of one of the self-controls can be improved as a remedial during the 15th week of the semester.
- If the result of the self-controls reaches the minimum average of 3,51 (3,51-4,5 good; 4,51-5 excellent) it will be offered as the grade of the ESE. Students are not obliged to accept the offered grade and may opt for taking an examination.
Assessment: ESE (involving possibility of failure).

Department of Behavioural Sciences, Faculty of Public Health

Subject: BIOETHICS
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 6
Seminar: 9

1st week:
### Requirements

Marks will be given to the ethical workup. A 5 scale practical mark will be given based on the ethical analysis done in the seminar of the seventh week and the written answers to questions which will be assigned to students at seminars during the year. The index will only be signed if the condition of seminar attendance is met.

Teacher in Bioethics: Péter Kakuk, Ph.D.

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<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th</td>
<td>Seminar: Abortion and ethics of human reproductive technologies.</td>
</tr>
<tr>
<td>7th</td>
<td>Seminar: Justice, welfare, and health care. Allocation of Resources.</td>
</tr>
<tr>
<td>8th</td>
<td>Seminar: Case analysis, written ethical workup.</td>
</tr>
</tbody>
</table>

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Subject: MEDICAL PSYCHOLOGY II.

Year, Semester: 3rd year/2nd semester

Number of teaching hours:

Lecture: 15
Practical: 20

1st week:
Lecture: Medical psychology as a discipline. Psychological determinants of health and disease concepts.

2nd week:

3rd week:

4th week:
Lecture: Fear and anxiety in dentistry. Definition, measurement, origins and development of dental fear and anxiety.

5th week:

6th week:

7th week:

8th week:

9th week:
Lecture: Special issues in dentistry: family violence, aging, dying, death, and bereavement. The helper attitude and the burnout syndrome.
ACADEMIC PROGRAM FOR THE 3RD YEAR

10th week:

Requirements

Requirements for signing the lecture book: By signing the Lecture Book the Department confirms that the student has met the academic requirements of the course and this enables him/her to take the examination. The Head of the Department may refuse to sign the Lecture Book if a student: is absent more than twice from practices or seminars of the same subject in a semester even if he/she has an acceptable reason. The way of compensation of absences: students will be given appropriate psychological material and will be asked to elaborate on it properly.

Evaluation: third year students should pass “End of Semester Examination” (ESE) at the end of the first semester. The Department of Behavioural Sciences will adhere to the requirements of the General Academic Regulations and Rules of Examinations. The student must be present and the examination at the designated time. (He/she must explain the reason for any absence from the examination to the Departmental Adviser within 1 days of the day of examination.)

Department of Foreign Languages

Subject: HUNGARIAN LANGUAGE III/2.
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 30

1st week:
Practical: Bevezetés, kurzusszervezés

2nd week:
Practical: Ismétlés

3rd week:
Practical: Gyermekfogászat

4th week:
Practical: Gyermekkori fogszabályozás

5th week:
Practical: Kezelés előtt

6th week:
Practical: Tömés

7th week:
Practical: Vérző íny, fogkö

8th week:
Practical: Mid-term oral exam

9th week:
Practical: Korona, híd

10th week:
Practical: Foghúzás

11th week:
Practical: Gyökérkezelés

12th week:
Practical: Protézis, műfogsor

13th week:
Practical: Fogászati ellenőrzés

14th week:
Practical: Gyakorlás, kurzusértékelés

15th week:
Practical: End-term oral exam, evaluation

Requirements

Attendance
Language class attendance is compulsory. The maximum percentage of allowable absences is 10% which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the signature is refused and the student has to repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behaviour or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes. Students are not allowed to take Medical Hungarian course before entering 3rd year.
CHAPTER 16

Testing, evaluation

In Medical Hungarian course, students have to sit for a mid-term and an end-term written and oral language tests and at the end of the 2nd semester a final exam. Further minimum requirement is the knowledge of 200 words in each semester announced on the first week. Every week there is an oral word quiz from 20 words in the first 5-10 minutes of the class. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam from all the 200 words along with the oral minimum exam. The results of word quizzes can modify the evaluation at the end of the semester. The oral minimum exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral minimum results in failing the whole course. The result of the oral minimum exam is added to the average of the mid-term and end-term tests.

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

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

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

Consultation classes

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

Coursebook: Kovács, Judit: A fogászati szaknyelv alapjai

Website: Vocabulary minimum lists and further details are available on the website of the Department of Foreign Languages: ilekt.med.unideb.hu.

Department of Laboratory Medicine

Subject: CLINICAL BIOCHEMISTRY II.

Year, Semester: 3rd year/2nd semester

Number of teaching hours:

Lecture: 11
Practical: 6

1st week:
Lecture: 1. Coagulopathies, (general introduction), haemophilias. 2. von Willebrand disease 3. Other coagulopathies, platelet function disorders

2nd week:
Practical: Laboratory diagnostics of coagulopathias

3rd week:
Practical: Laboratory diagnostics of Thrombophilia. Laboratory monitoring of anticoagulant therapy

4th week:
Practical: Laboratory diagnostics of platelet function disorders. Laboratory monitoring of antiplatelet therapy

5th week:

6th week:
Lecture: 8. Laboratory diagnostics of diabetes mellitus 9. Pathobiochemistry and clinical biochemistry of the acute complications of diabetes mellitus

7th week:
Lecture: 10. Laboratory diagnostics of acute coronary syndrome I.

8th week:
Lecture: 11. Laboratory diagnostics of acute coronary syndrome II.

Requirements

Participation in practices is obligatory. In case of further absences practices should be made up for by attending the practicals with another group on the same week, or a medical certificate needs to be presented. Please note that strictly only a maximum of 3 students are allowed to join another group to make up for an absence.

Requirements for signing the Lecture book: The Department may refuse to sign the Lecture book if the student is
Department of Oral and Maxillofacial Surgery

Subject: ORAL SURGERY PROPEDEUTICS
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 35

1st week:
Lecture: Anatomy of the maxillofacial region
Practical: Introduction to Oral Surgery Department

2nd week:
Lecture: Examination of the oral surgical patient
Practical: Complementary examination methods

3rd week:
Lecture: Imaging techniques in oral surgery I.
Practical: Imaging techniques in oral surgery II.

4th week:
Lecture: Local anaesthetics, pharmacology
Practical: Introduction of the local anaesthetic methods 1.

5th week:
Lecture: Complications of local anaesthesia
Practical: Introduction of the local anaesthetic methods 2.

6th week:
Lecture: TEST 1.
Practical: Practice of techniques of examination and local anaesthesia

7th week:
Lecture: Oral surgery instruments
Practical: Oral surgery instruments

8th week:
Lecture: Indications and techniques of dental extraction
Practical: Practice of techniques of examination and local anaesthesia dental extraction, instruments

9th week:
Lecture: Complications of dental extraction

10th week:
Lecture: Basic techniques in oral surgery I.
Practical: Practice of techniques of examination and local anaesthesia, dental extraction, instruments

11th week:
Lecture: Basic techniques in oral surgery II.
Practical: Practice of techniques of examination and local anaesthesia, dental extraction, instruments

12th week:
Lecture: Asepsis, antisepsis, sterility, sterilization in oral surgery
Practical: Visit to the Central Sterilization Unit. Methods of sterilization

13th week:
Lecture: TEST 2.
Practical: Practice of techniques of examination and local anaesthesia, dental extraction, instruments

14th week:
Lecture: Final consultation
Practical: Practical assessment

15th week:
Lecture: Remedial TEST
Practical: Practice of techniques of examination and local anaesthesia, dental extraction, instruments

Requirements

REQUIREMENTS:
Conditions of signature in the lecture book:
Active participation in the practices (there is no possibility to compensate for missed practices), delay from the practices is not permitted. Students are required to attend the practices. Every student have to participate in the practices in their preassigned groups. There is no possibility to change between the practical groups. With acceptable certificate students
may miss practices, but the ratio of missed practices cannot exceed 20%, even if it is certificated. Only one absence may be accepted from the obligatory lectures, in case of more absences the semester won’t be accepted. Missed practices and compulsory lectures should be certified in a credible way within three workdays.

**Prerequisites:** Anatomy II, Odontology, Pathology I

Assessment: end semester exam (including possibility of failure). There are two tests and one remedial during the semester. The results of the two best tests are calculated into the end semester grade. End semester exam contains two titles: „A” title-practical and „B” title-theoretical. The exam always starts with the practical title. The practical exam includes patient’s examination, instrumentation and demonstration of techniques of local anaesthesia. Students failing in the practical part cannot continue the exam.

**Compulsory lectures:**
4th week Local anaesthetics, pharmacology
5th week Complications of local anaesthesia
8th week Indications and techniques of dental extraction, upper teeth
9th week Indications and techniques of dental extraction, lower teeth
10th week Complications of extraction

**Compulsory reading:**

**Recommended Book:**

### Department of Pathology

**Subject:** PATHOLOGY II.
**Year, Semester:** 3rd year/2nd semester
**Number of teaching hours:**
Lecture: 49
Practical: 45

#### 1st week:
**Lecture:** OPHTALMIC PATHOLOGY.
CEREBROVASCULAR DISEASES-INFECTIVE DISEASES OF THE CNS-TUMORS OF THE CNS

#### 2nd week:
**Lecture:** NEURODEGENERATIVE DISEASES I – DEMENTIAS-NEURODEGENERATIVE DISEASES II – MOVEMENT DISORDERS-DISEASES OF THE PERIPHERAL NERVES AND SKELETAL MUSCLES (INCL. TUMORS)
**Practical:** 69. Obstructive alveolitis.70. Bronchopneumonia complicated by lung abscesses.71. Asthmatic bronchitis.72. Fibrosing alveolitis.73. Anthracopneumoconiosis.

#### 3rd week:
**Lecture:** SOFT TISSUE TUMORS. MELANOCYTIC AND EPITHELIAL SKIN TUMORS-DISEASES AFFECTING TUBULI AND INTERSTITIUM. KIDNEY STONES, HYDRONEPHROSIS
**Practical:** 74. Eosinophil granuloma in the lung. 75. Boeck's sarcoidosis in the lung. 76. Squamous cell carcinoma in the bronchus. 77. Intrabronchial carcinoma tumor.

#### 4th week:
**Lecture:** GLOMERULAR DISEASES-CYSTIC DISEASES AND TUMORS OF THE KIDNEY-PATHOLOGY OF THE URINARY TRACT

#### 5th week:
**Lecture:** -HYPERPLASIA AND CARCINOMA OF THE PROSTATE-DIABETES MELLITUS-ARTERIOSCLEROSIS. HYPERTENSION AND HYPERTENSIVE VASCULAR DISEASE
**Practical:** 82. Hyperplastic polyp in the stomach.83. Colon adenocarcinoma based on a polyp.84. Mucinous adenocarcinoma of the large bowel.85. Liver cirrhosis with hepatocellular carcinoma.86. Islet-cell tumor of the pancreas.

#### 6th week:
**Lecture:** -ISCHEMIC HEART DISEASE, CORONARY HEART DISEASE-CARDIOMYOPATHIES. MYOCARDITIS-DISEASES OF THE ENDOCARDIUM AND CARDIAC VALVES.-Maldevelopment and acquired disorders of teeth.
ACADEMIC PROGRAM FOR THE 3RD YEAR

7th week:
Lecture: CONGENITAL HEART DISEASES. VENOUS AND LYMPHATIC VESSELS DISORDERS-INTERSTITIAL LUNG DISEASE-CHRONIC OBSTRUCTIVE PULMONARY DISEASES-Caries and Pulpitis

8th week:
Lecture: TUMORS OF THE LUNG AND PLEURARDS. PNEUMONIA. PULMONARY EMBOLISMS-BENIGN PRENEOPLASTIC AND NEOPLASTIC LESIONS IN ORAL CAVITY. DISEASES OF SALIVARY GLANDS-White spot diseases and benign and premalignant leukoplakias of oral mucosa.

9th week:
Lecture: ESOPHAGEAL DISEASES. GASTRITIS. GASTRODUODENAL ULCERS-GASTRIC TUMORS-MALDEVELOPMENT OF INTESTINE. MEGACOLON. CIRCULATORY INTESTINAL LESIONS-Oral and odontogenic tumors.

10th week:
Lecture: ENTERITIS, ENTEROCOLITIS. MALABSORPTION. INFLAMMATORY BOWEL DISEASES (IBD)-COLORECTAL CANCER-INTRA-AND EXTRAHEPATIC BILIARY TRACT DISEASES.-Ulcereous and vesiculobullons oral mucosa lesions.

11th week:

12th week:

13th week:

14th week:
Lecture: BREAST CANCER-UTERINE TUMORS-TUMORS OF THE OVARIUM
Practical: CLASS REVISION I.

15th week:
Practical: CLASS REVISION II.

Validation of semester in Pathology:
Missing two practicals (histopathology and gross pathology together) is tolerable. Intracurricular replacement of histopathological and/or gross pathological classes is possible on the same week.

Examination:
On the 15th week written and practical exams on both semester (these exams are parts of the ESE and FE - the student is released from the written and/or practical part of ESE or FE if her/his evaluation is: pass). In case of failure student can repeat these parts of the exam during the exam period.

At the end of the 1st semester the student is required to take End of Semester Examination (ESE) based on the material taught in the semester.

Exam consists of: written, practical exam(15th week) and theoretical parts. The student get 10 minimal questions (can be found on the Department's website). On the 2nd semester 4 questions from the 1st and the 2nd semester minimals a 6

Requirements
dentistry questions. The student has to reach 70% to pass this part of the exam. The practical exam takes place in the autopsy room. An acceptable result in the practical exam is mandatory to apply for the oral part. During the theoretical exam 3 titles are to be worked out and presented orally and one photo about a slide (with different magnifications) has to be described and diagnosed also orally. The knowledge of students is assessed on a five-grade evaluation scale.

At the end of the 2nd semester the student is required to the take Final Exam (FE).

**Exam consists of:** written, practical (15th week) and theoretical parts. The practical exam is same as above. During the theoretical exam 3 titles are to be worked out (one from the material of the 1st semester, one from the material of the 2nd semester, and one dentistry topic). One photo about a slide (with different magnifications) has to be described and diagnosed (from the whole year – dentistry slides included). At least a (2) level of gross pathological examination and recognition of the histopathological alteration achieved in the course of a previous unsuccessful examination are acceptable without repeating for the next (B or C chance) examination.

For further information: [http://pathol.med.unideb.hu](http://pathol.med.unideb.hu)

### Department of Periodontology

**Subject:** PERIODONTOLOGY PROPEDEUTICS II.  
**Year, Semester:** 3rd year/2nd semester  
**Number of teaching hours:**  
**Lecture:** 2  
**Practical:** 15

<table>
<thead>
<tr>
<th>1st week:</th>
<th>8th week:</th>
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<tbody>
<tr>
<td>Lecture: Sonic and ultrasonic scalers in periodontal treatment</td>
<td>Lecture: Diagnosis and treatment planning</td>
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<tr>
<td>Practical: Clinical periodontal assessment and radiographic analysis of the periodontium</td>
<td>Practical: Diagnosis of periodontal lesions</td>
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<thead>
<tr>
<th>2nd week:</th>
<th>9th week:</th>
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<tbody>
<tr>
<td>Lecture: Decision Making During Treatment Planning for Patients with Periodontal Disease</td>
<td>Practical: Treatment planning</td>
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<td>Practical: Patient’s role in nonsurgical periodontal therapy</td>
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<tr>
<th>3rd week:</th>
<th>10th week:</th>
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<tbody>
<tr>
<td>Practical: The role of antiseptic therapy in the management of periodontal diseases</td>
<td>Practical: Case reports 1.</td>
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<tr>
<th>4th week:</th>
<th>11th week:</th>
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<tbody>
<tr>
<td>Practical: Introduction to periodontal maintenance</td>
<td>Practical: Case reports 2.</td>
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<tr>
<th>5th week:</th>
<th>12th week:</th>
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<tbody>
<tr>
<td>Practical: Comprehensive Patient Cases</td>
<td>Practical: Case reports 3.</td>
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<tr>
<th>6th week:</th>
<th>13th week:</th>
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<tbody>
<tr>
<td>Practical: Scaling technique for ultrasonic instrumentation</td>
<td>Practical: Case reports 4.</td>
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<tr>
<th>7th week:</th>
<th>14th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical: Scaling technique for hand instrumentation</td>
<td>Practical: Patient’s risk assessment</td>
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<tr>
<th>8th week:</th>
<th>15th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical: Supportive periodontal therapy</td>
<td></td>
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</tbody>
</table>

### Requirements

The aims and objectives of this course:
- to be able to communicate effectively the impact of local factors on their periodontal health and disease management to the patients.
- be capable of examining, diagnosing, performing risk prediction, treatment planning and managing, in their broadest
sense
- to achieve knowledge about periodontal hand scaling instruments in clinical practice
- to treat and maintain the patient with periodontal disease in a holistic manner

Student attendance on clinic is mandatory and a record of clinical attendance is taken at each practice. The Department may refuse to sign the students’ Lecture book if they are absent from more than 20% of all practical lessons in a semester.

REQUIREMENTS:
Lectures: As given in the timetable (time & place)
Practices: In the building of Faculty of Dentistry

Conditions of signature in the lecture book:
- active participation in practices
- no more absence than 20%
Assessment: oral exam (5 grade)
Compulsory reading:
- lectures and practices materials (handouts are available)

Prerequisites: Preclinical Periodontology, Biochemistry

Subject: **RADIOLOGY, DENTAL RADIOLOGY**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 18
Seminar: 23

1st week:
Lecture: /Department of Radiotherapy/ Imaging methods in radiology (X-ray, CT, MRI).
Seminar: Demonstration of radiological equipment.

2nd week:
Lecture: /Department of Radiotherapy/ The thorax (lung and heart).
Seminar: Paranasal sinuses. Radiology of the jaw and the TMJ.
Practical: Paranasal sinuses. Radiology of the jaw and the TMJ.

3rd week:
Lecture: /Department of Radiotherapy/ The diseases of the bones.
Seminar: Radiological diagnosis of the chest diseases.
Practical: Radiological diagnosis of the chest diseases.

4th week:
Lecture: /Department of Radiotherapy/ Gastrointestinal radiology.
Seminar: Radiological diagnosis in musculoskeletal diseases.
Practical: Radiological diagnosis in musculoskeletal diseases.

5th week:
Lecture: /Department of Radiotherapy/ X-ray diagnostic of the tumours on the head and neck region.
Seminar: Radiological diagnosis in gastroenterology.
Practical: Radiological diagnosis in gastroenterology.

6th week:
Practical: 1. Periapical exposures/shots. Periapical X-rays of the upper and lower teeth groups - position of the patient's head, the film and the tube. 2. /Department of Radiotherapy/ Radiological diagnosis of liver and pancreas lesions.

7th week:

8th week:
CHAPTER 16

Radiotherapy/ Principles of radiotherapy.

Practical: 1. Occlusal exposures. Upper and lower teeth groups - positioning the head. 2. /Department of Radiotherapy/ Radiological diagnosis of the urinary tract.

9th week:

Practical: 1. Localizing procedures 2 and more directional exposures (Mesio- and distoexcenetric shots). 2. /Department of Radiotherapy/ Events in traumatology.

10th week:

Practical: 1. Radiographic technique: tomography of the patient's head. 2. /Department of Radiotherapy/ CT examinations of the skull and the jaw and mandible.

11th week:
Lecture: Diseases of the marginal periodontium. Periodontits disease of a certain tooth.


12th week:

Practical: 1. Examination and evaluation of the X-ray. 2. /Department of Radiotherapy/ Radiology of the facial bone lesions.

13th week:
Lecture: Tumors osteolytic / osteoblastic or odontogenic / nonodontogenic. Diseases of the salivary glands.

Practical: 1. Protection against radiation. The patients r. protection, - Somatic r.p., - Genetic r.p. The doctors, assistants r.p., - Distance r.p., - Protecting walls. 2. /Department of Radiotherapy/ Radiotherapical equipment and protocol.

14th week:

Practical: /Department of Radiotherapy/ Radiotherapy of head and neck tumors.

15th week:
Lecture: Focus of infection. Errors before, during, after the making an X-ray.

Practical: /Department of Radiotherapy/ Practice in reading radiological films.

Requirements

The students are required to attend the seminars.
The Department may refuse to sign the students' Lecture book if they are absent from more than 20% of all seminar lessons in a semester.

Lectures and seminars: as given in the timetable (time and place).

Conditions of signature in the lecture book:
- participation in seminars
- no more absence than 20%
- meeting of the minimum requirements
- doing the written tests
- maximum two compensated absence

Assessment: end of semester examination combined with general Radiology. Oral Radiology exam can be taken from the 15th week of the semester. General Radiology exam can be taken only after successfully completing Oral Radiology.

(Ten of the lectures are about Dental Radiology, 23 of the practicals are about Dental Radiology)

Place of practicals: Dept. of Oral Radiology, Faculty of Dentistry. Dental Radiology Lectures and Practical lessons: from the 6th week in the building of the Faculty of Dentistry.

Department of Restorative Dentistry

Subject: RESTORATIVE DENTISTRY PROPEDEUTICS II. (ENDOdontics)

Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 45
### ACADEMIC PROGRAM FOR THE 3RD YEAR

<table>
<thead>
<tr>
<th>1st week:</th>
<th>8th week:</th>
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<tbody>
<tr>
<td><strong>Lecture:</strong> Anatomy of the teeth (upper and lower: number, localization and shape of the roots and root canals).</td>
<td><strong>Lecture:</strong> Different materials in the root canal system: irrigation materials, intracanal medicaments and root canal filling materials (classification).</td>
</tr>
<tr>
<td><strong>Practical:</strong> Root canal morphology of the upper teeth.</td>
<td><strong>Practical:</strong> Written exams I.</td>
</tr>
<tr>
<td>2nd week:</td>
<td>9th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> Morphology of the pulp chamber and the root canal system (accessory root canals, apical delta and apical foraments).</td>
<td><strong>Lecture:</strong> Root canal obturation: classification; single cone and lateral compaction.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Root canal morphology of the lower teeth.</td>
<td><strong>Practical:</strong> Root canal obturation methods: single cone and lateral compaction.</td>
</tr>
<tr>
<td>3rd week:</td>
<td>10th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> Preservation of pulp vitality (direct and indirect pulp capping).</td>
<td><strong>Lecture:</strong> Removing of root canal filling materials.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Pulp capping methods.</td>
<td><strong>Practical:</strong> Removing of root canal filling materials.</td>
</tr>
<tr>
<td>4th week:</td>
<td>11th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> The purpose, indications, contraindications and steps of the root canal treatment. The most common pulp diagnosises. Differential diagnosis.</td>
<td><strong>Lecture:</strong> Reconstruction of endodontically treated teeth (intrapulpal pin, inlay and onlay).</td>
</tr>
<tr>
<td><strong>Practical:</strong> Access cavity preparation.</td>
<td><strong>Practical:</strong> One visit endodontic treatment in extracted tooth.</td>
</tr>
<tr>
<td>5th week:</td>
<td>12th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> Endodontic instruments. Access cavity preparation (upper and lower teeth).</td>
<td><strong>Lecture:</strong> Endodontic surgery: retrograde root canal filling</td>
</tr>
<tr>
<td><strong>Practical:</strong> The usage of the different endodontic hand instruments. Rubber dam application.</td>
<td><strong>Practical:</strong> Written exam II. Endodontic surgery: retrograde root canal filling.</td>
</tr>
<tr>
<td>6th week:</td>
<td>13th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> X-rays during Endodontic treatment.</td>
<td><strong>Lecture:</strong> Medical history, patient assessment, treatment plan, pulp diagnostic in endodontics. Documentation.</td>
</tr>
<tr>
<td><strong>Practical:</strong> Working length determination. Practice of shaping and cleaning of the root canal: standardized technique. Root canal irrigation, drying and intracanal medicament (materials and methods).</td>
<td><strong>Practical:</strong> Medical history, patient assessment, treatment plan, pulp diagnostic in endodontics. Documentation.</td>
</tr>
<tr>
<td>7th week:</td>
<td>14th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> The role, objectives and principles of the chemomechanical preparation of the root canal system. Standardized technique and step-back preparation.</td>
<td><strong>Lecture:</strong> Written exam</td>
</tr>
<tr>
<td><strong>Practical:</strong> Practice of shaping and cleaning of the root canal: step-back preparation</td>
<td><strong>Practical:</strong> Preparation of curved and / or narrow root canals</td>
</tr>
<tr>
<td>8th week:</td>
<td>15th week:</td>
</tr>
<tr>
<td><strong>Lecture:</strong> Removing of root canal filling materials.</td>
<td><strong>Lecture:</strong> Consultation / remedial written exam</td>
</tr>
<tr>
<td><strong>Practical:</strong> Removing of root canal filling materials.</td>
<td><strong>Practical:</strong> Consultation . Grade calculation.</td>
</tr>
</tbody>
</table>

## Requirements

**Examination:** ESE (oral exam) (involving possibility of failure)

**Materials for exam preparation:** official lecture book, lectures and materials of the practicals.

**Requirements for signing the lecture book:**

* During the semester in accordance with the course requirements there is 1 written test that takes place during a lecture and 2 tests during the practicals. Result of any missed tests conclude to a fail (1) grade.
* The practices start and finish in accordance with the timetable, arriving late is not allowed.
* Students are required to stay at the premises of the practical from the beginning to the end of the class and participate actively in the practical work.
* Missed classes cannot be more than 20% of the total practice classes. * A certification is required for any absences which has to be handed to the leader of the practice course.
* Missed classes cannot be made up for.
* At the end of each practical, student’s work is evaluated with a grade. For signing a lecture book it is required to have more than 70% passed (2) grades.

Each part of the practical is evaluated with a grade. In case of a failed part of the practical, the whole practical is evaluated as a failed!
Any missed practices result in a fail (1) grade.

Grade formation
* If the average of:
  * the mark of the semester (15) +
  * the result of test during a lecture +
  * the result of 2 test during the practicals.
reach the minimum 3.51 and above to 4.5, the achieved grade is good. The average 4.51 or above conclude to an excellent grade. The achieved grade is offered to the student as an examination grade.
* The student is not obliged to take the offered grade and can ask to take the examination.

Requirements for taking up the subject: Oral biology, Restorative dentistry propedeutics I. (Cariology)

Division of Operative Techniques and Surgical Research

Subject: BASIC SURGICAL TECHNIQUES
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
   Lecture: 5
   Seminar: 7
   Practical: 6

1st week:
   Lecture: The role of operative professions in medicine. Surgical deontology. Surgical armamentarium.
   Seminar: Classification and handling of the surgical instruments. Tools' order on the instrumental tables. Maintenance of surgical instruments. (2 hours)

2nd week:
   Lecture: Surgical sutures, suture materials.
   Seminar: Conventional hand suturing and knotting techniques. Suture materials in practice. (2 hours)

3rd week:
   Seminar: Preparation for operation personnel. Isolation of the operative field. (1 hour)
   Practical: Scrubbing. Wound closure with different suture techniques on biomodels. (2 hours)

4th week:
   Seminar: Application of surgical tissue adhesives and bioplasts - video demonstration. (1 hour)
   Practical: Ligatures on gauze model. Demonstration and practising of vein preparation/cannulation, preparation of infusion set, blood sampling and injection techniques (i.m., i.v.) on phantom models. (2 hours)

5th week:
   Lecture: Surgical incisions. Conicotomy, tracheostomy.
   Seminar: Video-demonstration of median/paramedian laparotomy, conicotomy and tracheostomy. (1 hour)
   Practical: Conicotomy on phantom model. Wound closure with different suture techniques on surgical training models. Vein preparation/cannulation, preparation of infusion set, blood sampling and injection techniques (i.m., i.v.) on phantom models. Final test. (2 hours)

Requirements

Prerequisite: Oral anatomy, histology and embryology, Dental Physiology II.
The lectures and seminars/practices are built on each other. Consequently, it is difficult to make-up missed classes. The make-up of the first 3 practices is obligatory. Compensation for missed seminars should be paid according to the Rules and Regulations of the University of Debrecen. If the student is absent from 2 seminars/practices in a semester (without any acceptable reason), the Department will may refuse to sign the Lecture Book. Performance is assessed on the five-grade scale (AWS5) and it is based on the work through the curriculum and the completion of the final written test at the end of the course.
Subject: COMPLEX DENTISTRY I.
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 5
Practical: 110

1st week:
Lecture: General nursery procedure in the dental surgery
Practical: 1-15 week: Complex dental treatment: restorative, periodontal and extraction procedures according to patients’ needs. The minimum requirements declared by the departments to be fulfilled. General nursing procedures during treatments.

2nd week:
Lecture: Nursery procedures during restorative treatment

3rd week:
Lecture: Nursery procedures during prosthetic treatment

4th week:
Lecture: Extraction related nursery procedures

5th week:
Lecture: Nursery procedure during periodontal treatment

Requirements

Assessment:
End semester exam. The mark given on the basis of the student’s term-time practical performance will be offered as mark of the end semester exam. The marks can be improved during exam period.

Conditions of signature in the lecture book:
-Completion of the required minimum.
-Active participation on the practices (there is no possibility to compensate the missed practices).
-The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the student is present at the venue from the beginning until the end of the practice.
-With acceptable certificate students may miss practices, but the ratio of missed practices (included the assistant practices as well) cannot exceed 20 %, even it is certificated.
-The practical work will be evaluated with grades. The final grade is calculated on basis of the average results of the term-time practices.
-The student’s performance provided on general practices will be evaluated twice during the semester. In case the performance is not-acceptable, the student will be warned. Students with two warnings shall not be given signature in the lecture book.
-With failed final practical grade based on the student’s term-time practical performance the signature will be rejected.

Prerequisites: Propedeutics and technology of total and partial removable dentures, Endodontics propedeutics, Oral surgery propedeutics

Subject: PROSTHETIC DENTISTRY I.
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Planning and preparation I.

2nd week:
Lecture: Planning and preparation II.

3rd week:
Lecture: Clinical procedures of fixed prosthodontics I.

4th week:
Lecture: Clinical procedures of fixed prosthodontics II.
CHAPTER 17

5th week:
Lecture: Clinical procedures of fixed prosthodontics III.

6th week:
Lecture: Clinical procedures of fixed prosthodontics IV.

7th week:
Lecture: Clinical procedures of fixed prosthodontics V.

8th week:
Lecture: Porcelain fused to metal FPDs.

9th week:
Lecture: Polimer covered FPDs.

10th week:
Lecture: Laboratory procedures I.

11th week:
Lecture: Laboratory procedures II.

12th week:
Lecture: Laboratory procedures III.

13th week:
Lecture: Luting agents.

14th week:
Lecture: Postoperative care.

15th week:
Lecture: Consultation.

Requirements

Conditions of signature in the lecture book:

Active participation on the practices (there is no possibility to compensate the missed practices).
The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the student is present at the venue from the beginning until the end of the practice.
The signature in the lecture book will be refused in cases of absences from more than 50% of any special practice. All the absences must be certificated.
One self-control test will be held during the semester based upon the material of the lectures and practices, at a date announced later. The result of the self-control test will be offered as the grade of the end of semester exam. This grade can be improved during the exam period from the material of the titles attached.

Department of Dermatology

Subject: DERMATOLOGY
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15

1st week:
Lecture: Dermatology in oral medicine. Structure of skin.

2nd week:
Lecture: Primary and secondary lesions.

3rd week:
Lecture: Dermatologic surgery.

4th week:
Lecture: Papulosquamous dermatoses.

5th week:
Lecture: Drug eruption.

6th week:
Lecture: Skin Tumors.

7th week:
Lecture: Viral dermatoses. Epizoonozes.

8th week:
Lecture: Autoimmune and allergic skin diseases.

9th week:
Lecture: Photodermatoses.

10th week:
Lecture: Bacterial skin diseases. (tuberculosis, leprosy, pyoderma)

11th week:
Lecture: Mycology-Dermatomycoses.

12th week:
Lecture: Vasculitis. Postthrombotic syndrome.

13th week:
Lecture: STD.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>14th week</td>
<td>Role of infectious foci, alopecias.</td>
</tr>
<tr>
<td>15th week</td>
<td>Seborrhoic diseases. Role of local therapy in dermatology.</td>
</tr>
</tbody>
</table>

**Requirements**

- Presence of the students will be recorded (in the form of a presence sheet).
- It is compulsory to attend the lectures (no possibility for compensation).
- Only those missed lectures will be accepted where written notes (medical, legal, etc.) are presented.
- The lecture book will not be signed in case of more than 2 missed lectures.
- During the lectures medical knowledge will be provided which may not be available elsewhere. These topics will be asked during the exams.
- The final exam is an oral exam about theoretical issues.

**Department of Oral and Maxillofacial Surgery**

Subject: **ORAL SURGERY I.**
Year, Semester: **4th year/1st semester**
Number of teaching hours:
Lecture: **15**
Practical: **10**

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Surgical treatment of tooth-eruption disorders</td>
</tr>
<tr>
<td>2nd week</td>
<td>Endodontic surgery</td>
</tr>
<tr>
<td>3rd week</td>
<td>Oral surgical treatment of patients with hemostatic disorders</td>
</tr>
<tr>
<td>4th week</td>
<td>Odontogenic and non-odontogenic inflammations of the head and neck region and their treatment I.</td>
</tr>
<tr>
<td>5th week</td>
<td>Odontogenic and non-odontogenic inflammations of the head and neck region and their treatment II.</td>
</tr>
<tr>
<td>6th week</td>
<td>Antibiotics in oral surgery Osteomyelitis of the jaws</td>
</tr>
<tr>
<td>7th week</td>
<td>Test 1.</td>
</tr>
<tr>
<td>8th week</td>
<td>Pathology and therapy of head and neck cysts I.</td>
</tr>
<tr>
<td>9th week</td>
<td>Pathology and therapy of head and neck cysts II.</td>
</tr>
<tr>
<td>10th week</td>
<td>Diseases of the maxillary sinus and their treatment.</td>
</tr>
<tr>
<td>11th week</td>
<td>Diseases of the salivary glands and their treatment.</td>
</tr>
<tr>
<td>12th week</td>
<td>Preprosthetic surgery I.</td>
</tr>
<tr>
<td>13th week</td>
<td>Dysgnathias and their treatment.</td>
</tr>
<tr>
<td>14th week</td>
<td>Test 2.</td>
</tr>
<tr>
<td>15th week</td>
<td>Final consultation.</td>
</tr>
</tbody>
</table>

**Requirements**

**Requirements for signature in the lecture book:**
Active participation in the special practices, and in the obligatory lectures, delays are not permitted. Students being late cannot join the practice or the lecture. Students should take part in the practice from its beginning to the end. Only one absence is accepted from the obligatory lectures, in case of more absences the semester won’t be accepted.

**All of the absences (practices and obligatory lectures) should be certified in a credible way within three workdays.** Compensations of missed special practices are obligatory, but linked to credible certification of missings.
Without certification and compensation of the missed practice, students won’t get a signature.

Assessment: 5AW practical grade, calculated from the results of the 2 mid-term written tests. Students who do not write a test automatically get a fail. If the average of the 2 written tests is less than 1.51, remedial test should be written on the 15th week (after the final consultation), the remedial contains the whole material of the 1st semester of the 4th year. Student, who fail to write the remedial test or get a fail, should take an oral end semester exam in the exam period.

Prerequisites: Pathology II, Oral Surgery propedeutics

OBLIGATORY LECTURES:
1st week Surgical treatment of tooth-eruption disorders.
2nd week Endodontic surgery
3rd week Oral surgical treatment of patients with hemostatic disorders
4th week Odontogenic and non-odontogenic inflammations of the head and neck region and their treatment
6th week Antibiotics in oral surgery. Osteomyelitis of the jaws

Compulsory reading:

Recommended Books:

Department of Otolaryngology and Head and Neck Surgery

Subject: OTOLARYNGOLOGY
Year, Semester: 4th year/1st semester
Number of teaching hours:
Seminar: 15

1st week:
Lecture: Anatomy of external and middle ear. Examination of the external and middle ear. Significance, physiology of the auditory tube. Subjective hearing tests (Tuning fork tests, treshold audiometry).

2nd week:

3rd week:
Lecture: Anatomy and physiology of larynx. Diagnosis of laryngeal diseases.

4th week:

5th week:

6th week:

7th week:

8th week:

9th week:

10th week:
Lecture: Trauma and inflammatory disorders of the external nose. Epistaxis and its management. Trauma of the paranasal sinuses and frontobasal region

11th week:
Lecture: Obstruction of the nasal cavity. Inflammatory
12th week:
Lecture: Tumors of the nasal cavity and the paranasal sinuses. Differential diagnosis of the diseases of the nasal cavity and paranasal sinuses.

13th week:

14th week:

15th week:
Lecture: Differential diagnosis of the headache.

Requirements

Attendance at seminars is compulsory. Missed seminars should be made up for by the student at the later date to be discussed with their tutor. Lecture book will be signed if every missed seminar is substituted.

Department of Pediatric Dentistry and Orthodontics

Subject: ORTHODONTICS I.
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Subject and role of orthodontics. Basic knowledge and terminology in orthodontics.

2nd week:

3rd week:
Lecture: Relationship between dysfunction and orthodontic anomalies.

4th week:
Lecture: Diagnostic procedure of orthodontic anomalies I. Angle’s Classification.

5th week:
Lecture: Diagnostic procedure of orthodontic anomalies II. (Functional diagnostic examination)

6th week:
Lecture: Diagnostic procedure of orthodontic anomalies III. (X-ray)

7th week:
Lecture: Test.

8th week:
Lecture: Start and duration of the orthodontic treatments

9th week:
Lecture: Development of primary teeth, change of teeth, development of dental arches.

10th week:
Lecture: Intrauterine development of cranium.

11th week:
Lecture: Postnatal development of upper and lower jaws.

12th week:

13th week:
Lecture: Removable appliances: I. Active and passive plates.

14th week:
Lecture: Removable appliances: II. Functional jaw-orthopaedics.

15th week:
Lecture: Test.
Requirements

Propedeutics and technology of total and partial removable dentures
Endodontics Propedeutics
The student should be able to: special documentation, take impressions and wax bite, examine orthodontic patients, to set up proper diagnosis, analyze studycasts models and radiographs, know medical and technical steps for fabrication of removable orthodontic appliances, know removable orthodontic appliances and their usage in praxis.
Lectures: As given in the timetable (time and place).
Practices: In the building of Faculty of Dentistry.
Conditions of signature in the lecture book:
Active participation in the practices (there is no possibility to compensate the missed practices). With acceptable certificate students may miss one practice (5 hours).
Five grade (AW5) practical grade evaluation: The final AW5 marks are decided according to the marks given during the semester. 2 written tests will be held during the semester. The average mark of the 2 written tests will give the final mark. If it is less than 1,51 than the grade is "failed" (1) and the grade must be improved during the examination period, as a "B" or "C" chance.
Assessment of course work: five grade (AW5).

Subject: PREVENTIVE DENTISTRY II.
Year, Semester: 4th year/1st semester
Number of teaching hours:
Seminar: 15

<table>
<thead>
<tr>
<th>1st week:</th>
<th>8th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>Oral status and indices</td>
<td>Preventive programs in practice (Planning preventive programs for young adults and seniors)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd week:</th>
<th>9th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>Caries risk assessment</td>
<td>Preventive care in conservative dentistry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3rd week:</th>
<th>10th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>Fissure sealing</td>
<td>Preventive care in prosthetic dentistry</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>4th week:</th>
<th>11th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>The effect of diet on oral health</td>
<td>Preventive care in orthodontics</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>5th week:</th>
<th>12th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>How to plan preventive programs? How to educate patients?</td>
<td>Preventive care in oral surgery</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6th week:</th>
<th>13th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>Preventive programs in practice (Planning preventive programs for pregnant woman, nursery 0-3 years)</td>
<td>Preventive care in periodontology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7th week:</th>
<th>14th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>Preventive programs in practice (Planning preventive programs for kindergartens 3-6 years, elementary schools 7-12 years)</td>
<td>Up-to-date preventive methods</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8th week:</th>
<th>15th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar:</td>
<td>Seminar:</td>
</tr>
<tr>
<td>Test (written exam)</td>
<td>Test (written exam)</td>
</tr>
</tbody>
</table>

Requirements

Seminars: In the building of the Faculty of Dentistry. Conditions of signing the lecture book: - Active participation in the seminars - With acceptable written certificate students may miss 2 seminars (there is no possibility to compensate the missed seminars). Five grade (AW5) practical grade evaluation: The average of the mark given for the presentation held during the semester, and the self-control test written at the end will give the final mark of the semester (involving possibility of failure). Prerequisites of taking the subject: Preventive dentistry I., Conservative dentistry propedeutics II
### ACADEMIC PROGRAM FOR THE 4TH YEAR

**Department of Periodontology**

**Subject:** PERIODONTOLOGY I.

**Year, Semester:** 4th year/1st semester

**Number of teaching hours:**
- Lecture: 15
- Practical: 10

<table>
<thead>
<tr>
<th>1st week:</th>
<th>Lecture: Dental calculus, bacterial plaque and other deposits. The role of bacterial plaque and other local factors in the etiology of periodontal diseases. Microbiology of periodontal disease.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd week:</td>
<td>Lecture: Orthodontics lectures</td>
</tr>
<tr>
<td>5th week:</td>
<td>Lecture: Written exam.</td>
</tr>
<tr>
<td>6th week:</td>
<td>Lecture: Clinical diagnosis of periodontal disease in general.</td>
</tr>
<tr>
<td>7th week:</td>
<td>Lecture: National holiday.</td>
</tr>
<tr>
<td>8th week:</td>
<td>Lecture: Progression of periodontal disease. Classification of periodontal disease.</td>
</tr>
<tr>
<td>9th week:</td>
<td>Lecture: Written exam.</td>
</tr>
<tr>
<td>10th week:</td>
<td>Lecture: Orthodontics lectures.</td>
</tr>
<tr>
<td>11th week:</td>
<td>Lecture: Gingivitis: Clinical features and diagnosis Periodontitis: Clinical features and diagnosis.</td>
</tr>
<tr>
<td>14th week:</td>
<td>Lecture: Emergencies in periodontology.</td>
</tr>
</tbody>
</table>

**Requirements**

Lectures: As given in the timetable (time and place).

Practices: In the building of Faculty of Dentistry (Dept. of Periodontology)

Conditions of signature in the lecture book:
- Active participation in the practices (there is no possibility to compensate the missed practices).
- Students may miss practices with acceptable certificate, but the ratio of missed practices cannot exceed 20%, even if it is certificated.
- The practical work will be evaluated at the end of each practice separately as 'accepted' or 'not-accepted'.
- The number of accepted practices must be above 80% of practices.
- Missed practice is not-accepted.
- Students have to fulfill the minimum practical requirements of the subject.
- The minimum practical requirements of the subject will be handed out in the first week of the semester.
- Each of the written tests should be passed during the semester.

Assessment: End of Semester Exam.
CHAPTER 17

Department of Pharmacology and Pharmacotherapy

Subject: DENTAL PHARMACOLOGY I.
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 30
Seminar: 15

1st week:
Lecture: Drug receptors and pharmacodynamics 1. Drug receptors and pharmacodynamics 2.
Seminar: Prescription writing.

2nd week:
Lecture: Pharmacokinetics 1. Pharmacokinetics 2.
Seminar: Prescription writing.

3rd week:
Seminar: Prescription writing.

4th week:
Seminar: Prescription writing.

5th week:
Seminar: Prescription writing.

6th week:
Lecture: Antihypertensive agents 2. ACE inhibitors.
Seminar: WRITTEN EXAMINATION.

7th week:
Lecture: Antianginal drugs. Agents used in hyperlipidemia.
Seminar: Prescription writing.

8th week:
Lecture: Drugs used in congestive heart failure. Antiarrhythmic agents.
Seminar: Prescription writing.

9th week:
Lecture: General anesthetics. Local anesthetics 1.
Seminar: Prescription writing.

10th week:
Lecture: Local anesthetics 2. Local anesthetics 3.
Seminar: Prescription writing.

11th week:
Lecture: Opioid analgesics. Non-opioid analgesics and antipyretics 1.
Seminar: WRITTEN EXAMINATION.

12th week:
Seminar: Prescription writing.

13th week:
Seminar: Prescription writing.

14th week:
Lecture: Drugs used in disorders of coagulation, Antianemic agents. Diuretics.
Seminar: WRITTEN EXAMINATION.

15th week:
Lecture: Drugs acting on the gastrointestinal tract 1. Drugs acting on the gastrointestinal tract 2.
Seminar: Prescription writing.

Requirements

Attendance at seminars is compulsory. The Department may refuse to sign the student's Lecture Book if he/she is absent from more than two seminars. The current knowledge of the students will be tested twice in each semester by a written test. Participation is compulsory, the results of the tests are recorded and will be presented to the examiner during the End of Semester Examination (ESE) and the Final Examination (FE). At the end of the 1st semester the students are required to take the ESE (written and oral), based on the material taught in the semester. At the end of the 2nd semester the students are required to take the written and oral FE, based on the material taught in Pharmacology in both semesters.
# Department of Preventive Medicine, Faculty of Public Health

**Subject:** PREVENTIVE MEDICINE AND PUBLIC HEALTH  
**Year, Semester:** 4th year/1st semester  
**Number of teaching hours:**  
Lecture: 30  
Seminar: 26  
Practical: 4

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Seminar</th>
</tr>
</thead>
</table>
| 1st week | 1. The history, scope and methods of public health and preventive medicine, major public health issues in developing and developed countries  
| 2nd week | 3. Air pollution and health  
4. Water pollution and health | 3-4. Demographic methods to study the health status of the population |
| 3rd week | 5. Health effect of the occupational environment.  
I. Physical hazards  
6. Health hazards of ionising radiation and radioactive substances | 5-6. Occupational health and safety in dentist practice |
| 4th week | 7. Health effects of the occupational environment. II. Toxicology of inorganic industrial toxicants  
8. Health effects of the occupational environment. III. Toxicology of organic solvents and pesticides | 7-8. Chemical and microbiological examination of drinking water (laboratory practice for small groups) |
| 5th week | 9. The general effect of environmental pollution  
10. Lifestyle and health | 9-10. Chemical and microbiological examination of drinking water (laboratory practice for small groups) |
| 6th week | 11. Healthy nutrition. Nutritional deficiency disorders  
12. Food poisoning | 11-12. Mercury toxicity, case study |
| 7th week | 13. Public health consequences of substance abuse  
| 8th week | 15. Epidemiology of respiratory diseases  
| 9th week | 17. Public health problems of disadvantaged people  
18. Introduction into the general epidemiology of non-communicable diseases | 17-18. Epidemiological measures |
| 10th week | 19. Epidemiology of neoplastic diseases  
20. Epidemiology of cardiovascular diseases | 19-20. Epidemiological studies |
| 11th week | 21. Epidemiology of skeletal and dental diseases II  
22. General epidemiology of communicable diseases | 21-22. Preventive strategies |
| 12th week | 23. Epidemiology of respiratory infectious diseases  
24. Infection Control in Dental Health-Care Settings | 23-24. WHO/HFA database |
| 13th week | 25. Communicable diseases transmitted through the skin  
| 14th week | 27. Epidemiology of viral hepatitis  
| 15th week | 29. Health care systems of developed countries  
30. Needs, demands and use of health services | 29-30. Central sterilization Unit of the Medical University (visit) |

**Requirements**

**Requirements for signing the lecture book**  
Attendance of lectures is highly recommended. Attendance of the seminars, practices and visits is obligatory. The head
of the department may refuse to sign the lecture book, if a student is absent more than two times from seminars
(including practices and visits) during the semester even if he/she has an acceptable excuse.

Requirements for the final exam
The final exam involves written and oral sections covering the topics of all lectures, seminars and practices of the subject. The oral exam covers the topics of all seminars and practices of the semester. The written exam consists of multiple choice test questions related to Environmental Health, Epidemiology and Health Policy. The final exam is assessed on the basis of the average of four marks and it is failed if either the oral or any part (Environmental Health, Epidemiology, Health Policy) of the written exam is graded unsatisfactory. Students should repeat only those section(s) of the final exam that has/have been previously unsuccessful. In this case the final exam is graded according to the average of the passing marks obtained on the first and repeated exams.

Course description
The course covers the main areas of public health: environmental health including the health consequences of air and water pollution, occupational and nutritional health; the principles of epidemiology, the epidemiology and control of communicable and non-communicable diseases. Special attention is given on the main topics underlying nutritional disorders and deficiencies, health hazards of dental practice, epidemiology of dental caries and oral diseases, and preventive strategies.

Requirements
To acquire knowledge about the principles and the most important issues of environmental health, communicable and non-communicable diseases and health policy.

Methods of education
The education of the subject is based on lectures, seminars, practices and visits. The practical adaptation of the topics of lectures are highly promoted by seminars. Students will learn about the major public health issues in developing and developed countries and organisation of public health services. The practices are closely related to the environmental health part of the course. Students will learn how to calculate the most important indicators for the measurement of morbidity and mortality. In addition, the epidemiology of communicable and non-communicable diseases will be discussed in detail during the epidemiology seminars.

Prerequisite
microbiology, pathology II.

Department of Restorative Dentistry

Subject: RESTORATIVE DENTISTRY I. (CARIOLOGY)
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Modern possibilities in dental caries diagnostics.

2nd week:

3rd week:
Lecture: Morphology of the teeth. The physiology of occlusion with special focus on restorative dentistry.

4th week:

5th week:
Lecture: Special types of cavity preparations: tunnel, box only. Complex preparation for composites in case of a complex caries lesion. Parapulpal pins.

6th week:
Lecture: Complex preparation for amalgam restorations.

Pins and occlusal coverage with amalgam. Bonded amalgam restorations.

7th week:

8th week:

9th week:
Lecture: Layering techniques, light curing possibilities to reduce polymerization shrinkage and improve marginal seal. Rebonding. Polishing of composites.

10th week:
Lecture: Up to date matrice systems.

11th week:
Lecture: Treatment of cervical lesions. Sandwich technique.
12th week:
Lecture: Written test.

13th week:
Lecture: Chairside direct composite inlay, onlay.

14th week:
Lecture: Dental treatments in elderly. Caries of the roots.

15th week:
Lecture: Case presentations / Consultation.

Requirements

Examination: exam at the end of the mid semester.

Requirements for signing the lecture book:
• During the semester, in accordance with the course requirements there is one written test that takes place during a lecture. There is a chance of improvement of this written test on the 15th week of the semester. Result of any missed tests conclude to a fail (1) grade.

• Special practicals:
  o The practices start and finish in accordance with the timetable, arriving late is not allowed.
  o Students are required to stay at the premises of the practical from the beginning to the end of the class and participate actively in the practical work.
  o Absences, in theory, are not allowed.
  o In reasoned cases, for certified absences the department ensure make up classes on a previously agreed date during the semester.
  o A certification is required for any absences which has to be handed to the leader of the practice course.
  o At each practical student’s work is evaluated with a grade by the practice course leader based on the student’s knowledge on theory, practical work and manuality.
  o At the end of the semester, student is given a grade for his/her mid term work based on the average of the grades given during the semester.

Grade formation
The result of the test and the grades of the special practicals can impact on the grade of the oral exam.

!!! ATTENTION
ENDODONTICS CASE PRESENTATION (V. year)
During the case presentation, student is required to present the case of his/her own patient (molar tooth) treated with rubber dam isolation.

Presentation requirements:
• Filled and signed endodontic form without any missing details
• Evaluatable radiological documentation
• Logically built up computer presentation
The mandatory endodontics case study is planned according to previously agreed date and is presented in sequence order.

!!! Missing the presentation of case study, or missing any part of the above mentioned listed requirements, results in the refusal of signing the lecture book.

Requirements for taking up the subject: Restorative Dentistry propsedetics II. (Endodontics), Prop. and Techn. of Total and Partial Removable Dentures, together with Prosthetic Dentistry I.

Special practices (4th 1st semester):
1. Relative and absolute isolation in dentistry.
2. Sensitivity test.
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Department of Surgery

Subject: SURGERY
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15

1st week:
Practical: Presentation of the clinic. Structure and working system of the surgical department.

2nd week:
Practical: Visit at the operation room and sterilization unit.

3rd week:
Practical: Transfusiology in practice.

4th week:
Lecture: Burns and other thermal injuries. Types of wounds. Wound healing. Wound dressings.
Practical: Visit at the Department of Dermatology. Presentation of patients with burns.

5th week:

6th week:
Practical: Treatment of infected wounds (incision, drainage, wound dressing).

7th week:
Practical: Practice on the wards, presentation of patients.

8th week:

Practical: Visit at the Intensive Care Unit.

9th week:
Lecture: Organ transplantation.
Practical: Practice on the wards, presentation of patients.

10th week:
Lecture: Head and neck surgery. Endocrine and breast surgery.

11th week:
Practical: At the thoracic surgical ward. Presentation of patients.

12th week:
Lecture: Surgical diseases of the stomach and the intestines. Hernias.
Practical: Video presentation of different types of operations (I).

13th week:
Lecture: Diseases of the pancreas liver and biliary tract. Acute abdomen Peritonitis.
Practical: Video presentation of different types of operations (II).

14th week:
Lecture: Basic cardiac surgery.
Practical: Visit at the cardiac surgery center of the Department of Cardiology.

15th week:
Lecture: Kidney, prostate and urinary bladder.
Practical: Case presentations. Discussion.

Requirements

Students attend lectures during the semester. There are no weekly practices.
At the end of the semester the Head of the Department signs the Lecture Book confirming that the student has fulfilled the requirements of the course.
The student should pass an examination (ESE) at the end of the semester.
### Division of Dental Medicine

**Subject:** INTERNAL MEDICINE I.

**Year, Semester:** 4th year/1st semester

**Number of teaching hours:**
- **Lecture:** 15
- **Practical:** 15

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Stomatology and internal medicine (Dr. I. Tornai)</td>
<td>History taking, physical examination (Department of Internal Medicine building B)</td>
</tr>
<tr>
<td>2nd</td>
<td>Symptoms and diagnostic procedures in cardiology (Dr. I. Tornai)</td>
<td>History taking, physical examination (Department of Internal Medicine building B)</td>
</tr>
<tr>
<td>3rd</td>
<td>Acquired valvular and congenital heart diseases (Dr. Zs. Vitális)</td>
<td>History taking, physical examination (Department of Internal Medicine building B)</td>
</tr>
<tr>
<td>4th</td>
<td>Angina pectoris (Dr. I. Hegedűs)</td>
<td>Examination of cardiac patients (Dept. Cardiology)</td>
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<tr>
<td>5th</td>
<td>Myocardial infarction (Dr. Zs. Kőszegi)</td>
<td>Examination of cardiac patients (Dept. Cardiology)</td>
</tr>
<tr>
<td>6th</td>
<td>Infective endocarditis (Dr. I. Tornai)</td>
<td>Patients with cardiac, venous and arterial disorders (Department of Internal Medicine building B)</td>
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<tr>
<td>7th</td>
<td>Arrhythmias, pacemaker treatment (Dr. I. Tornai)</td>
<td>Patients with cardiac, venous and arterial disorders (Department of Internal Medicine building B)</td>
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<tr>
<td>8th</td>
<td>Cardiac failure, antithrombotic treatment in cardiology (Dr. I. Tornai)</td>
<td>Patients with cardiac, venous and arterial disorders (Department of Internal Medicine building B)</td>
</tr>
<tr>
<td>9th</td>
<td>Hypertension (Dr. I. Tornai)</td>
<td>Patients with cardiac, venous and arterial disorders (Department of Internal Medicine)</td>
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<tr>
<td>10th</td>
<td>Venous thromboembolic disorders (Prof. Z. Boda)</td>
<td>Patients with cardiac, venous and arterial disorders (Department of Internal Medicine building B)</td>
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<tr>
<td>11th</td>
<td>Arterial thromboses (Prof. Z. Boda)</td>
<td>Patients with cardiac, venous and arterial disorders (Department of Internal Medicine building B)</td>
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<tr>
<td>12th</td>
<td>Pneumonias, tuberculosis, lung cancer (Dr. A. Fodor)</td>
<td>Patients with pulmonary disorders (Dept. Pulmonology)</td>
</tr>
<tr>
<td>13th</td>
<td>COPD, respiratory failure (Dr. A. Fodor)</td>
<td>Patients with pulmonary disorders (Dept. Pulmonology)</td>
</tr>
<tr>
<td>14th</td>
<td>Glomerulonephritis, pyelonephritis (Dr. I. Tornai)</td>
<td>Patients with renal disorders (Department of Internal Medicine building A)</td>
</tr>
<tr>
<td>15th</td>
<td>Renal failure (Dr. I. Tornai)</td>
<td>Patients with renal disorder (Department of Internal Medicine building A)</td>
</tr>
</tbody>
</table>
Department of Biomaterials and Prosthetic Dentistry

Subject: COMPLEX DENTISTRY II.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 5
Practical: 110

1st week:
Lecture: 1-5 week: Case presentation
Practical: 1-15 week: Complex dental treatment:
restorative, periodontal and extraction procedures
according to patients’ needs. The minimum requirements

Requirements

Assessment:
End semester exam. Mark given on the basis of the student’s term-time practical performance will be offered as mark of
the end semester exam. The marks can be improved during exam period.

Conditions of signature in the lecture book:
-Completion of the required minimum.
-Active participation on the practices (there is no possibility to compensate the missed practices).
-The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the
student is present at the venue from the beginning until the end of the practice.
-With acceptable certificate students may miss practices, but the ratio of missed practices (included the assistant
practices as well) cannot exceed 20 %, even it is certificated.
-The practical work will be evaluated with grades. The final grade is calculated on basis of the average results of the
term-time practices.
-The student’s performance provided on general practices will be evaluated twice during the semester. In case the
performance is not-acceptable, the student will be warned. Students with two warnings shall not be given signature in
the lecture book.
-Prerequisites: Complex Dentistry I.

Subject: PROSTHETIC DENTISTRY II.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Total dentures: patient examination, examination
of soft and hard tissues, diagnosis, treatment plan.

2nd week:
Lecture: Impression techniques, determination of the
centric relation position, usage of the facebow.

3rd week:
Lecture: Statical and esthetic considerations of arranging
artificial teeth.

4th week:
Lecture: Denture delivering and oral hygiene for total
denture patients.

5th week:
Lecture: Definition of removable partial prosthodontics,
types of partial dentures, parts of partial dentures. Support

and anchorage of the denture.

6th week:
Lecture: Components of a removable denture. Casted
clasp systems.

7th week:
Lecture: Clinical procedures of constructing a removable
partial denture step by step. Reaction of oral mucosa to
bearing the base of a denture. Insertion, counseling,
complaints and adjustments, refitting. Procedures and
repairs.

8th week:
Lecture: Temporomandibular disorders and their
treatments I.

9th week:
Lecture: Temporomandibular disorders and their
ACADEMIC PROGRAM FOR THE 4TH YEAR

10th week:
Lecture: Precision attachments for partial dentures.

11th week:
Lecture: Mechanical principles of the partial denture design.

12th week:
Lecture: Biomechanical aspects of wearing a removable partial denture.

13th week:
Lecture: Principles of planning a removable partial denture.

14th week:
Lecture: Dental laboratory relations.

15th week:
Lecture: Consultation.

Requirements

Conditions of signature in the lecture book:

* Active participation on the practices (there is no possibility to compensate the missed practices).
* The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the student is present at the venue from the beginning until the end of the practice.
* The signature in the lecture book will be refused in cases of absences from more than 50% of any special practice. All the absences must be certificated.
* AW5 mark may be given on the basis of the student’s term-time practical performance, which may be considered at the ESE grade.

Topics of the special practices:
- Tooth color determination
- Application of CAD-CAM systems

Assessment:
- End of semester examination.

Prerequisites:
- Prosthetic Dentistry I.

Department of Oral and Maxillofacial Surgery

Subject: ORAL SURGERY II.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Maxillofacial traumatology, soft tissue and tooth injuries, pathology of fractures

2nd week:
Lecture: Diagnosis and treatment of mandible fractures I.

3rd week:
Lecture: Diagnosis and treatment of mandible fractures II.

4th week:
Lecture: Central and lateral midface fractures and their treatment.

5th week:
Lecture: TMJ diseases.

6th week:
Lecture: Test

7th week:
Lecture: Neurological diseases of the face

8th week:
Lecture: Developmental anomalies of maxillofacial region

9th week:
Lecture: Benign tumours

10th week:
Lecture: Odontogenic tumour

11th week:
Lecture: Craniofacial surgery
CHAPTER 17

12th week:
Lecture: Differential diagnosis of facial pain

13th week:
Lecture: Pre Test consultation

14th week:
Lecture: Test.

15th week:
Lecture: Final consultation.

Requirements

Requirements for signature in the lecture book:
Active participation in the special practices, and in the obligatory lectures, delays are not permitted. Students being late cannot join the practice or the lecture. Students should take part in the practice from its beginning to the end. Only one absence is accepted from the obligatory lectures, in case of more absences the semester won’t be accepted.

All of the absences (practices and obligatory lectures) should be certified in a credible way within three workdays. Compensations of missed special practices are obligatory, but linked to credible certification of missings. Without certification and compensation of the missed practice, students won’t get a signature.

Assessment: End Semester Examination contains the material of the 1st and 2nd semester of the 4th year. Results of the two midterm written tests are calculated in the end semester grade (missed midterm tests are considered as failed).

Prerequisites: Oral Surgery I.

OBLIGATORY LECTURES:
1st week Maxillofacial traumatology, soft tissue and tooth injuries, pathology of fractures
4th week Central and lateral midface fractures and their treatment.
5th week TMJ diseases.
8th week Developmental anomalies of maxillofacial region
12th week Differential diagnosis of facial pain

Compulsory reading:

Recommended Books:

Department of Pediatric Dentistry and Orthodontics

Subject: ORTHODONTICS II.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 15
Seminar: 1
Practical: 15

1st week:
Lecture: Treatment of Angle class I. anomalies. Local and general anomalies.

2nd week:
Lecture: Treatment of Angle class II. anomalies.

3rd week:
Lecture: Treatment of Angle class III. anomalies.

4th week:
Lecture: Elements of fixed appliances.

5th week:
Lecture: Types and characters of orthodontic archwires.

6th week:
Lecture: Multiband systems (edgewise, light-wire, twin-wire).

7th week:
Lecture: Headgear, facebow, quad helix, hyrax and temporary anchorage devices

8th week:
Lecture: Extraction in orthodontics.

9th week:
Lecture: Adult treatment in orthodontics.

10th week:
Lecture: Orthodontic treatment by missing teeth.

### Requirements

Orthodontics I
Lectures: As given in the timetable (time and place).
Practices: In the building of Faculty of Dentistry.
Conditions of signature in the lecture book: Active participation on the practices (there is no possibility to compensate the missed practices). With acceptable certificate students may miss one practice (5 hours).
Assessment: Final exam (oral).

### Department of Periodontology

**Subject:** PERIODONTOLOGY II  
**Year, Semester:** 4th year/2nd semester  
**Number of teaching hours:**  
Lecture: **15**  
Practical: **10**

| 1st week: Lecture: Treatment of periodontal diseases: goals, steps | 9th week: Lecture: Connection between periodontology and other subdisciplines. |
| 4th week: Lecture: Surgical Phase of periodontal therapy: Gingivectomy | 12th week: Lecture: Trauma from occlusion. |
| 8th week: Lecture: Written exam |
Requirements

Clinical practice on periodontology 4th year:
1. Examination of periodontium
   1.1. Physical examination
       a) Taking previous medical history - the patients complaint(s)
       b) Inspection - healthy periodontium - distinction from the diseased
       c) Clinical examination of periodontium - periodontal probing; probing depth, pocket depth, definition of loss of
          attachment and their relationship
       d) Periodontal charting and recording - definition and periodontal indices
2. Treatment of periodontal disorders in dental practice
   2.1. Instruction and motivation of patients
       a) Disclosing agents and their application in practice
       b) Demonstration of different tooth brushing methods on model
   2.2. Causative treatment of periodontal disorders: Scaling and root planning, curettage
       a) Instruments and their usage (hand, rotational and ultra sound scalers; instruments for polishing, polishing pastes,
          maintenance of instruments)
       b) Therapy assessment: results, failures, follow up
3. Medicaments in periodontal therapy
   a) Chemical plaque control
   b) Antibiotics in periodontics
   c) Subgingival irrigation
   d) Periodontal dressings, tissue adhesives in practice
   e) Treatment of root hypersensitivity. Special oral hygiene aids, instruments
4. Periodontal aspects of implantology

Lectures: As given in the timetable (time and place).
Practices: In the building of Faculty of Dentistry.

Conditions of signature in the lecture book:
- Active participation on the practices (there is no possibility to compensate the missed practices).
- With acceptable certificate students may miss practices, but the ratio of missed practices cannot exceed 20%, even if
  it is certificated.
- The practical work will be evaluated at the end of each practice separately, as 'accepted' or 'not-accepted'.
- The number of accepted practices must be above 80% of practices.
- Missed practice is not-accepted.
- Students have to fulfill the minimum practical requirements of the subject.
- The minimum practical requirements of the subject will be handed out on the first week of the semester.
- Each of the tests, written during the semester should be passed.

Five grade (AW5) practical grade evaluation:
The final AW5 marks are decided according to the marks (test and practical) given during the semester. At least 2
written self-control tests will be held during the semester, the pre-annunciation of which is not obligatory for the
department. In case of "failed" (1) result the grade must be improved during the examination period, as a "B" or "C"
chance.
Assessment of course work: five grade (AW5).

Department of Pharmacology and Pharmacotherapy

Subject: DENTAL PHARMACOLOGY II.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 30
Seminar: 15

1st week:
Lecture: Introduction to central nervous system.
Seminar: Antipsychotics.
Seminar: Prescription writing.
**Requirements**

Attendance at seminars is compulsory. The Department may refuse to sign the student's Lecture Book if he/she is absent from more than two seminars. The current knowledge of the students will be tested twice in each semester by a written test. Participation is compulsory, the results of the tests are recorded and will be presented to the examiner during the End of Semester Examination and the Final Examination. At the end of the 1st semester the students are required to take the End of Semester Examination (written and oral), based on the material taught in the semester. At the end of the 2nd semester the students are required to take the written and oral Final Examination, based on the material taught in Pharmacology in both semesters.

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**Department of Restorative Dentistry**

Subject: **RESTORATIVE DENTISTRY II. (ENDODONTICS)**

Year, Semester: 4th year/2nd semester

Number of teaching hours:
- Lecture: 15
- Practical: 10

1st week:
**Lecture:** The pulp and periapical area: anatomy and histology. The dentin-pulp complex. The principles of endodontology

2nd week:
**Lecture:** Establishment of endodontic diagnosis. History,
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
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<tbody>
<tr>
<td>4th</td>
<td>Lecture: The periapical area: pathology, symptoms and therapy.</td>
</tr>
<tr>
<td>5th</td>
<td>Lecture: Guidelines in endodontics.</td>
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<tr>
<td>6th</td>
<td>Lecture: Modern concepts and methods in the course of shaping the root canal (hand and rotary instruments).</td>
</tr>
<tr>
<td>7th</td>
<td>Lecture: Different materials in endodontics: irrigation materials, intracanal medicaments and root filling materials.</td>
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<tr>
<td>9th</td>
<td>Lecture: Endodontics in health related problems</td>
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<tr>
<td>11th</td>
<td>Lecture: Endodontic revision (surgical and non-surgical retreatment).</td>
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<tr>
<td>12th</td>
<td>Lecture: Restoration of endodontically treated teeth.</td>
</tr>
<tr>
<td>13th</td>
<td>Lecture: Traditional and microsurgical techniques in endodontic surgery.</td>
</tr>
<tr>
<td>14th</td>
<td>Lecture: Written exam</td>
</tr>
<tr>
<td>15th</td>
<td>Lecture: Consultation / remedial written exam</td>
</tr>
</tbody>
</table>

Requirements

Examination: exam at the end of the mid semester.

Requirements for signing the lecture book:
- During the semester, in accordance with the course requirements there is one written test that takes place during a lecture. There is a chance of improvement of this written test on the 15th week of the semester. Result of any missed tests conclude to a fail (1) grade.
- Special practicals:
  - The practices start and finish in accordance with the timetable, arriving late is not allowed.
  - Students are required to stay at the premises of the practical from the beginning to the end of the class and participate actively in the practical work.
  - Absences, in theory, are not allowed. In reasoned cases, for certified absences the department ensure make up classes on a previously agreed date during the semester.
  - A certification is required for any absences which has to be handed to the leader of the practice course.
  - At each practical student’s work is evaluated with a grade by the practice course leader based on the student’s knowledge on theory, practical work and manuality.
  - At the end of the semester, student is given a grade for his/her mid term work based on the average of the grades given during the semester.

Grade formation
The result of the test and the grades of the special practicals can impact on the grade of the oral exam.

!!! ATTENTION
ENDODONTICS CASE PRESENTATION (V. year)
During the case presentation, student is required to present the case of his/her own patient (molar tooth) treated with rubber dam isolation.

Presentation requirements:
- Filled and signed endodontic form without any missing details
- Evaluable radiological documentation
- Logically built up computer presentation

The mandatory endodontics case study is planned according to previously agreed date and is presented in sequence order.
!!! Missing the presentation of case study, or missing any part of the above mentioned listed requirements, results in the refusal of signing the lecture book.
Division of Dental Medicine

Subject: INTERNAL MEDICINE II.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 30
Practical: 30

1st week:
Practical: Patients with gastrointestinal and hepatological disorders (Department of Internal Medicine building B)

2nd week:
Practical: Patients with gastrointestinal and hepatological disorders (Department of Internal Medicine building B)

3rd week:
Practical: Patients with gastrointestinal and hepatological disorders (Department of Internal Medicine building B)

4th week:
Lecture: a. Disorders of the gall bladder, obstructive jaundice b. Disorders of the pancreas
Practical: Patients with hematological disorders and bleedings (Department of Internal Medicine building B)

5th week:
Practical: Patients with hematological disorders and bleedings (Department of Internal Medicine building B)

6th week:
Practical: Patients with hematological disorders or thrombosis (Department of Internal Medicine building B)

7th week:
Practical: Patients with hematological and bleeding disorders (Department of Internal Medicine building B)

8th week:
Practical: Patients with hematological and bleeding disorders (Department of Internal Medicine building B)
Division of Emergency Medicine

Subject: EMERGENCY MEDICINE
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 22
Practical: 22

1st week:
Lecture: General approach of emergency care, urgency levels, transportation trauma, etc.

2nd week:
Lecture: Cardiac arrest, levels of cardiopulmonary resuscitation, basic life support, professional basic life support, advanced life support, post resuscitation care.
Practical: BLS.

3rd week:
Lecture: Cardiac rhythm disturbances. Hypertensive emergencies. Syncope, endocrine, metabolic and acid-base emergencies.
Practical: Delivery in the field. Gastric lavage. Safe defibrillation. AEDs, manual defibrillators.

4th week:
Lecture: Chest pain, acute coronary syndromes, pulmonary embolism, aortic dissection.
Practical: Indications and limitations of peripheral vein maintaining. The vein puncture. The intraosseous way. Central vein catheterization

5th week:
Practical: CPR practice.

6th week:
Lecture: Stroke, headache, subarachnoid hemorrhage, convulsions, acute confusional state, coma.

7th week:
Lecture: Poisoning Psychiatric emergencies.

8th week:
Practical: Rautek maneuvers. Rapid trauma survey.

9th week:
Lecture: Trauma of the head, vertebral column, chest, abdomen and extremities. The multiply injured patient). Management of mass causalities.
Practical: Electrical accidents, burning, smoke inhalation, drowning, disorders due to heat and cold.

10th week:
Lecture: Pediatric emergencies - cardiac arrest in childhood, acute circulatory and respiratory failure, seizures, etc.
Practical: Consultation.

11th week:
Lecture: Disaster medicine. Conception of the mass accident disaster. Organisation of rescue in the field.
Practical: CPR consultation practice.

Requirements

Requirements for signing the lecture book:
For obtaining the signature at the end of the semester, you are required to attend all practices. In case of absence, you have to do the practice at a chosen time. Written excuse is not accepted. Concerning the supplementary practice you
have to contact your physician responsible for the practices. Facilities for maximum. Two complementary practices are available at the Ambulance station in Debrecen. If somebody has more than 2 missed practices, (s)he will get no signature.

Evaluation: The students write a test every week about previous week lectures topic. The final examination consists of an oral and a practical part. The condition of the oral exam is to pass the practical one. You can register for the exam before the beginning of the examination period. In case you fail to register for the exam, we consider you to have failed the "A" examination and you have to retake the examination ("B" exam). Your representative is required to ask for the examination time facilities last week of the semester.
CHAPTER 18
ACADEMIC PROGRAM FOR THE 5TH YEAR

Department of Biomaterials and Prosthetic Dentistry

Subject: COMPLEX DENTISTRY III.
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 5
Practical: 300

1st week:
Lecture: General nursery procedure in the dental surgery
Practical: 1-15 week: Complex dental treatment: restorative, periodontial and extraction procedures according to patients' needs. The minimum requirements declared by the departments to be fulfilled. General nurturing procedures during treatments

2nd week:
Lecture: Nursery procedures during restorative treatment

3rd week:
Lecture: Nursery procedures during prosthetic treatment

4th week:
Lecture: Extraction related nursery procedures

5th week:
Lecture: Nursery procedure during periodontial treatment

Requirements

Assessment:
End semester exam. The mark given on the basis of the student’s term-time practical performance will be offered as mark of the end semester exam. The marks can be improved during exam period.

Conditions of signature in the lecture book:
- Completion of the required minimum.
- Active participation on the practices (there is no possibility to compensate the missed practices).
- The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the student is present at the venue from the beginning until the end of the practice.
- With acceptable certificate students may miss practices, but the ratio of missed practices (included the assistant practices as well) cannot exceed 20 %, even it is certificated.
- The practical work will be evaluated with grades. The final grade is calculated on basis of the average results of the term-time practices.
- The student’s performance provided on general practices will be evaluated twice during the semester. In case the performance is not-acceptable, the student will be warned. Students with two warnings shall not be given signature in the lecture book.
- With failed final practical grade based on the student’s term-time practical performance the signature will be rejected.

Prerequisites: Complex Dentistry II.

Subject: PROSTHETIC DENTISTRY III.
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Rigid and elastic impression materials.

2nd week:
Lecture: Advanced impression materials.

3rd week:
Lecture: Working cast and dies.

4th week:
Lecture: Polymers in dentistry. Techniques for producing dentures made of polymers.
ACADEMIC PROGRAM FOR THE 5TH YEAR

5th week:
Lecture: Adhesive materials in dentistry.

6th week:
Lecture: Metal alloys used in dentistry.

7th week:
Lecture: Dental ceramics.

8th week:
Lecture: Biocompatibility and corrosion.

9th week:
Lecture: CAD / CAM systems in dentistry.

10th week:
Lecture: TMI disorders.

11th week:
Lecture: Removing post and core restorations.

12th week:
Lecture: Making the final prosthetic plan.

13th week:
Lecture: Design and fabrication of fixed-and-partial denture combinations.

14th week:
Lecture: Complex and multidisciplinary prosthodontic treatment.

15th week:
Lecture: Advanced technologies and materials used in prosthodontic dentistry.

Requirements

Conditions of signature in the lecture book:
Active participation on the practices (there is no possibility to compensate the missed practices).
The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the
student is present at the venue from the beginning until the end of the practice.
The signature in the lecture book will be refused in cases of absences from more than 50% of any special practice. All
the absences must be certificated.
One self-control test will be held during the semester based upon the material of the lectures and practices, at a date
announced later. The result of the self-control test will be offered as the grade of the end of semester exam. This grade
can be improved during the exam period from the material of the titles attached.

Department of Forensic Medicine

Subject: FORENSIC MEDICINE
Year, Semester: 5th year/1st semester
Number of teaching hours:
Seminar: 15
Practical: 15

1st week:
Lecture: Forensic Odontology as a discipline and other related forensic sciences (Forensic Pathology, Forensic Anthropology).
Practical: Every week's practical topic is the same as the lecture's topic.

2nd week:
Lecture: Determining identification (facial, dental, oral, dental structure, super-imposition technique, report on dental findings).

3rd week:
Lecture: Age determination (development of tooth, deciduous and adult teeth, Gustafson method)

4th week:
Lecture: DNA techniques (dental application).

5th week:
Lecture: Mass disaster management (forensic odontologic consideration).

6th week:
Lecture: Report on wounds (general/ surgical/description, wound characteristics, healing process, consequences).

7th week:
Lecture: Bite marks (human and other, examing, reporting, evaluating).

8th week:
Lecture: Child abuse (dentistry's role in reporting and preventing).
CHAPTER 18

9th week:
Lecture: Evaluation of malpractice cases in forensic dentistry.

10th week:
Lecture: Civil and criminal case involvement. Effective medical testifying.

11th week:

12th week:
Lecture: Case evaluation. Description of teeth (systematic charting, morphology, marking schemes, caries, filling, missing teeth, bridges, protheses).

13th week:
Lecture: Death body evaluation on the scene or in the autopsy room (external description, case report).

14th week:
Lecture: Techniques in Forensic Odontology (forensic photography, computer assisted identification).

15th week:
Lecture: An overview on the study of Forensic Odontology.

Department of Neurology

Subject: NEUROLOGY
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 10
Practical: 10

1st week:
Lecture: Meningeal signs. Examination of cerebrospinal fluid, meningitis, causes of increased cell number and protein content, interpretation of bloody CSF. Infectious diseases of central nervous system.

2nd week:
Lecture: Anatomy and examination of cranial nerves I-XII, I: temporal epilepsy; II: visual field defects, papillaoedema; III-IV-VI: gaze disturbances, diplopia, anisocoria, pathway of pupilla reflex, hemianopic pupillary reaction, cortical blindness.

3rd week:
Lecture: Anatomy and examination of cranial nerves I-XII, V: everything; VII: central and peripheral facial palsy, ageusia, innervation of salivatory glands, herpes zoster geniculi; VIII: peripheral and central type of dizziness, tinnitus, Bell's palsy.

4th week:

5th week:
Lecture: Motor system, -power -muscle tone -involuntary movements. Epilepsy.

6th week:
Lecture: Sensory system, -disturbance of deep sensation -disturbance of superficial sensation. Tumors of the nervous system.

7th week:
Lecture: Reflexes, -physiological reflexes, -pathological reflexes, -pyramidal signs -primitive reflexes. Autoimmune diseases of nervous system.

8th week:
Lecture: Coordination. Trauma of central nervous system.

9th week:
Lecture: Aphasias (sensory, motor), Gnostic functions, apraxias (anosognosia, dressing apraxia). Stroke

10th week:
Lecture: Headache, facial pain.

Requirements

1. There is one lecture and one seminar every week in the first ten weeks of the 1st semester.
2. After the end of the lectures and seminars, before the beginning of exam period, there is only one occasion for 'grade offering' exam (test exam, four possible answers, one correct). Material covered in the lectures and seminars is asked at. The 'grade offering' test is not the 'A' exam. Offered grades can be: 'passed', 'satisfactory', 'good' and 'excellent'. Offered grades must be accepted in the Neptun until the end of the following week (after the date of grade offering test). If the offered grade is not accepted the student will have to take the exam again.

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4. At the end of the semester all students should pass a written exam (test exam, four possible answers, one answer is correct). Places for exam are opened every week during exam period. Students have to register on Neptun for the exam. Without registration the exam cannot be taken. The first exam is the 'A' chance, the second exam is the 'B' chance, both are written (test) exams. If somebody failed 'A' and 'B' chance the third possibility is the 'C' chance, which is oral exam at the respective group tutor. In this case the student has to agree an appointment with the group tutor. Material covered in the lectures are asked at exams. Grade improvement is possible once, in this case registration in the Neptun is necessary for an unoccupied exam place. Grade improvement will not be considered as 'B' chance.

5. Lecture book will be signed after successful written exam by the Head of the department.

Department of Oral and Maxillofacial Surgery

Subject: ORAL SURGERY III.
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Premalignant conditions, precancers

2nd week:

3rd week:
Lecture: Cancer of the bucca, the gingiva and the tongue. Cancer of the floor of the mouth and the maxillary sinus

4th week:
Lecture: Tumour metastases, RND.

5th week:
Lecture: Complex therapy of head and neck cancers. Reconstructive surgery of the head and neck region.

6th week:
Lecture: Radiotherapy and chemotherapy of malignant tumours. Intraoral Side effects

7th week:
Lecture: Test 1.

8th week:
Lecture: Differential diagnosis of swellings of the neck

9th week:
Lecture: General anaesthesia in the dental practice

10th week:
Lecture: Implantology I.

11th week:
Lecture: Implantology II.

12th week:
Lecture: Preoperative perspectives of oral surgery operations, feeding Pharmacological analgesia in oral surgery

13th week:
Lecture: Test 2.

14th week:
Lecture: Final consultation

15th week:
Lecture: Remedial test

Requirements

Requirements for signature in the lecture book:
Active participation in the special practices, and in the obligatory lectures, delays are not permitted. Students being late cannot join the practice or the lecture. Students should take part in the practice from its beginning to the end. Only one absence is accepted from the obligatory lectures, in case of more absences the semester won’t be accepted.

All of the absences (practices and obligatory lectures) should be certified in a credible way within three workdays. Compensations of missed special practices are obligatory, but linked to credible certification of missings. Without certification and compensation of the missed practice, students won’t get a signature.

Assessment: 5AW practical grade, calculated from the results of the 2 mid-term written tests. Students who do not write a test automatically get a fail. If the average of the 2 written tests is less than 1.51, remedial test should be written on the 15th week (after the final consultation), the remedial contains the whole material of the 1st semester of the 4th
CHAPTER 18

year. Student, who fail to write the remedial test or get a fail, should take an 5AW oral end semester exam in the exam period.

Prerequisites: Oral Surgery II.

OBLIGATORY LECTURES:

2nd week Malignant tumors in general Lip cancer and its treatment
3th week Cancer of the bucca, the gingiva and the tongue Cancer of the floor of the mouth and the maxillary sinus.
4th week Tumour metastases, RND,
8th week Differential diagnosis of swellings of the neck
10th week Implantology I.

Compulsory reading:

Recommended Books:

Department of Pediatric Dentistry and Orthodontics

Subject: PEDIATRIC DENTISTRY I.
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Introduction to Pediatric Dentistry.
Practical: Know the methods of examination, instrumentation, treatment planning

2nd week:
Lecture: Pain control, topical and local anesthesia, minor oral surgery in childhood.
Practical: Describe the normal anatomic structures of oral cavity of the infant

3rd week:
Lecture: Etiology of dental caries and its characteristics in childhood.
Practical: Discuss and recognise common developmental disturbances of the teeth

4th week:
Lecture: Caries in the primary dentition, diagnosis, treatment.
Practical: Classify common oral lesions and infections by clinical features

5th week:
Lecture: Caries and consecutive diseases, diagnosis and treatment
Practical: Discuss etiological factors influencing the formation of dental caries in children

6th week:
Lecture: Endodontic treatment in childhood. The treatment of the immature permanent teeth.
Practical: Develop an individualized oral health care program for the child patient

7th week:
Lecture: Traumatic injuries to the teeth and supporting tissues.
Practical: Do step by step amalgam filling in posterior primary and permanent teeth

8th week:
Lecture: Prosthetic dentistry for children.
Practical: Identify and distinguish morphological differences in the primary teeth

9th week:
Lecture: Common growth and developmental anomalies of the teeth.
Practical: Do the specific cavity preparation indicated in primary posterior teeth, dependent on the restorative material used. Extract primary tooth. Use the several clinical procedures available for pulp care

10th week:
Lecture: Common structural disturbances of the teeth.
Practical: Carry out successful pulpectomy. Recognize and treat dental injuries. Fabricate a simple splinting device

11th week:
Lecture: Periodontology in pediatric dentistry.
Practical: Fabricate a space maintainer. Restore an anterior primary and permanent tooth with composite restorative material

12th week:
Lecture: Oral manifestation of infective diseases.
Practical: Restore a fractured incisor with composite material. Carry out a successful apexification.

13th week:
Lecture: Oral manifestation of systemic diseases.

14th week:
Lecture: Oral manifestation of systemic diseases II.
Practical: Use preventive methods

15th week:
Lecture: Test (written examination)

Requirements

Lectures: As given in the timetable (time and place).
Practices: In the building of Faculty of Dentistry, Department of Pediatric Dentistry.

Conditions of signing the lecture book:
Active participation on the practices
With acceptable written certificate students may miss 1 practical lesson, there is no possibility to compensate the missed practices

Five grade (AWS) practical grade evaluation:
During the semester we evaluate the practical work with grades. The semester ends with a written examination (test). The result of the test must be at least 60% to pass. The average of the practical grade and the test result will give the AWS practical mark. The grade can be improved as a “B” or “C” chance oral exam.
Assessment: 5 grade (AWS) practical mark.

Prerequisites of taking the subject: Preventive dentistry II., Orthodontics II.

Department of Pediatrics

Subject: PEDIATRICS
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: The field of pediatrics, growth and development.
Practical: Infrastructure of the Department of Pediatrics, pediatric history taking.

2nd week:
Lecture: Fluid and electrolyte homeostasis. Metabolic disorders.
Practical: Physical examination - Infants Department.

3rd week:
Lecture: Infant feeding, feeding disorders, vomiting in infants.
Practical: Perinatal Intensive Care Unit.

4th week:
Lecture: Gastrointestinal disorders.
Practical: Infants Department - Nursing and feeding.

5th week:
Lecture: Upper respiratory tract disease.
Practical: Department of Pulmonology - Examination of patients, assessment of chest X-ray pictures.

6th week:
Lecture: Contagious infectious diseases in children. Pediatric AIDS.
Practical: Emergency Unit - Examination of patients, assessment of astrup test.

7th week:
Lecture: Disorders of dentition, tongue anomalies.
Practical: Infants Department - Examination of patients, prophylaxis and treatment of rickets.

8th week:
Lecture: Buccal disorders. Tonsillopharyngeal diseases.
Practical: Department of Pulmonology - Examination of patients.

9th week:
Practical: Department of Hematology - Examination of patients.
CHAPTER 18

10th week:
Practical: Department of Pediatric Internal Diseases - Urinalysis.

11th week:
Lecture: Disorders of the hematopoietic system.
Practical: Department of Hematology - Transfusion.

12th week:
Lecture: Lower respiratory tract diseases.
Practical: Department of Pulmonology - Examination of patients.

13th week:
Lecture: Disorders of the circulation.

Practical: Department of Cardiology - Examination of patients, assessment of ECG.

14th week:
Lecture: Neuroinfections.
Practical: Department of Pediatric Internal Disorders - Febrile and epileptic seizures.

15th week:
Lecture: Disorders of the kidneys.
Practical: Checking skills in developing physical examinations of pediatric patients, assessment of oral health.

Requirements

Requirements for signing the lecture book: Attendance on practices are mandatory. In case of more than one absence, the signature of the lecture book will be refused. In case of documented serious disease or other reasonable cause, it can be discussed with the senior lecturer in charge for the dental English curriculum. Absences should be made up, compensation will be arranged individually by the senior tutors of the groups. Development of proper skills in pediatric patient's examinations, assessment of the clinical science of pediatric diseases involving the head and neck region with a special emphasis on the oral cavity is expected by the senior tutors on the last (15th week's) practice.

Requirements of the examination: Obtaining signature of the lecture book. Prearranged exam appointment strictly within the exam period as given by the Department of Education (to be obtained from the secretary of the Department, students are kindly requested to come to do the exam in a group of 5-20 students in an exam day; changes in the exam schedule should be made at least 24 hours - 1 working day - prior to the scheduled exam). Type of examination: Colloquium type end-semester exam (ESE), two titles.

Department of Periodontology

Subject: ORAL MEDICINE
Year, Semester: 5th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:

2nd week:
Lecture: Mucosal diseases I. Ulcerative, bullous & vesicular disorders.

3rd week:
Lecture: Mucosal diseases II. White and red lesions.

4th week:
Lecture: Mucosal diseases III. Other disorders with different discolorations.

5th week:

6th week:
Lecture: Oral benign tumors.

7th week:
Lecture: Diseases of the tongue.

8th week:
Lecture: Diseases of the temporomandibular joint.

9th week:
Lecture: Written exam.

10th week:
Lecture: Orofacial complaints without physically detectable disorders. (Burning mouth syndrome, subjective xerostomy, dysgeusia etc.).
ACADEMIC PROGRAM FOR THE 5TH YEAR

11th week:
Lecture: Diseases of salivary glands

12th week:
Lecture: Stomatological symptoms of systemic disorders
I. Cardiovascular and respiratory system.

13th week:
Lecture: Stomatological symptoms of systemic disorders
II. Gastrointestinal tract and renal diseases.

14th week:
Lecture: Stomatological symptoms of systemic disorders
III. Hematological diseases, and dental care of patients with hemostasis disorders.

15th week:
Lecture: Stomatological symptoms of endocrinological and immunological diseases. Consultation.

Requirements

Lectures: As given in the timetable (time and place)
Practices: In the building of the Faculty of Dentistry (Dept. of Period.)

Conditions of signature in the lecture book:
- Active participation on the practices (there is no possibility to compensate the missed practices).
- With acceptable certificate students may miss practices, but the ratio of missed practices cannot exceed 20%, even if it is certificated.
- The practical work will be evaluated at the end of each practice separately, as 'accepted' or 'not-accepted'.
- The number of accepted practices must be above 80% of practices.
- Missed practice is not-accepted.
- Students have to fulfill the minimum practical requirements of the subject.
- The minimum practical requirements of the subject will be handed out on the first week of the semester.
- Each of the tests, written during the semester should be passed.

Assessment: ESE.

Department of Psychiatry

Subject: PSYCHIATRY
Year, Semester: 5th year/1st semester

Number of teaching hours:
Lecture: 5
Practical: 5

1st week:
Lecture: Examination of a psychiatric patient
Psychopathology.
Practical: Classification of illnesses.

2nd week:
Lecture: Anxiety disorders.
Practical: Affective illnesses.

3rd week:
Lecture: Alcohol and drug.

4th week:

5th week:
Practical: Border territory of dentistry and psychiatry.

Requirements

Psychiatric titles of first term:
# Department of Restorative Dentistry

**Subject:** RESTORATIVE DENTISTRY III. (CARIOLOGY AND ENDODONTICS)

**Year, Semester:** 5th year/1st semester

**Number of teaching hours:**
- Lecture: 15
- Practical: 10

<table>
<thead>
<tr>
<th>1st week</th>
<th>Lecture:</th>
<th>8th week</th>
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<tbody>
<tr>
<td>Up-to date preparation techniques: Laser, oscillating instruments, chemical. Mechanical caries removal, airabrasion in restorative dentistry.</td>
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<table>
<thead>
<tr>
<th>2nd week</th>
<th>Lecture:</th>
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<tr>
<td>Dentin-hypersensitivity and treatment options.</td>
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<tr>
<th>3rd week</th>
<th>Lecture:</th>
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<tr>
<td>Erosion. Causes, manifestations in oral cavity, diagnosis making and its therapy.</td>
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<th>4th week</th>
<th>Lecture:</th>
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<tr>
<td>Bleaching of vital and non-vital teeth.</td>
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<th>5th week</th>
<th>Lecture:</th>
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<tr>
<td>Modern concepts and methods in the course of shaping the root canal.</td>
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<th>6th week</th>
<th>Lecture:</th>
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<tr>
<td>Obturation materials - a comparative evaluation.</td>
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<th>7th week</th>
<th>Lecture:</th>
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<tr>
<td>Pulp-periodontal interrelationship.</td>
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### Requirements

**Examination:** I. semester exam at the end of the mid semester

**Materials for exam preparation:** official lecture book, lectures and materials of the special practicals.

**Requirements for signing the lecture book:**
- During the semester, in accordance with the course requirements there is one written test that takes place during a lecture. There is a chance of improvement of this written test on the 15th week of the semester. Results of any missed tests conclude to a fail (1) grade.

**ENDODONTICS CASE PRESENTATION**
- During the case presentation, student is required to present the case of his/her own patient (molar tooth) treated with rubber dam isolation.

**Presentation requirements:**
- Filled and signed endodontic form without any missing details
- Evaluable radiological documentation
- Logically built up computer presentation The mandatory endodontics case study is planned according to previously agreed date and is presented in sequence order.

**!!! Missing the presentation of case study, or missing any part of the above mentioned listed requirements, results in the refusal of signing the lecture book.**

**Special practicals:**
- The practices start and finish in accordance with the timetable, arriving late is not allowed.
- Students are required to stay at the premises of the practical from the beginning to the end of the class and participate
actively in the practical work.

- Absences, in theory, are not allowed.
- In reasoned cases, for certified absences the department ensure make up classes for students on a previously agreed date during the semester.
- **A certification is required for any absences which has to be handed to the leader of the practice course.**
- At the end of each practical student’s work is evaluated with a grade based on the knowledge of his/her theory, practice work and manuality. At the end of the semester, student is given a grade for his/her mid term work based on the average of the grades given during the semester.

**Grade formation**

The result of the test and the grades of the special practicals can impact on the grade of the oral exam.

**Special practice (5th 1st semester):**
1. Rotary instrumentation II. + obturation
2. Intrapulpal pin Class IV.

**Requirements for taking up the subject:** Restorative Dentistry II. (Endodontics)

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**Department of Biomaterials and Prosthetic Dentistry**

**Subject:** COMPLEX DENTISTRY IV.

**Year, Semester:** 5th year/2nd semester

**Number of teaching hours:**

- **Lecture:** 5
- **Practical:** 240

**1st week:**

- **Lecture:** 1-5 week: Case presentation
- **Practical:** 1-15 week: Complex dental treatment: restorative, periodontial and extraction procedures according to patients’ needs. The minimum requirements declared by the departments to be fulfilled. General nursering procedures during treatments

**Requirements**

- **Assessment:** End semester exam. The mark given on the basis of the student’s term-time practical performance will be offered as mark of the end semester exam. The marks can be improved during exam period.

- **Conditions of signature in the lecture book:**
  - Completion of the required minimum.
  - Active participation on the practices (there is no possibility to compensate the missed practices).
  - The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the student is present at the venue from the beginning until the end of the practice.
  - With acceptable certificate students may miss practices, but the ratio of missed practices (included the assistant practices as well) cannot exceed 20 %, even it is certificated.
  - The practical work will be evaluated with grades. The final grade is calculated on basis of the average results of the term-time practices.
  - The student’s performance provided on general practices will be evaluated twice during the semester. In case the performance is not-acceptable, the student will be warned. Students with two warnings shall not be given signature in the lecture book.
  - With failed final practical grade based on the student’s term-time practical performance the signature will be rejected.

- **Presrequisites:** Complex Dentistry III.
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Subject: PROSTHETIC DENTISTRY IV.
Year, Semester: 5th year/2nd semester
Number of teaching hours:
Lecture: 12
Practical: 10

1st week:
Lecture: Treatment plan considerations for periodontically involved abutement teeth.

2nd week:
Lecture: Problems with fixed prosthesis.

3rd week:
Lecture: Problems with removable replacements.

4th week:
Lecture: Complications with using different attachments.

5th week:
Lecture: Patient instructions and patient care for total denture patients.

6th week:
Lecture: 6th - 12th week: Case presentations.

Requirements

Conditions of signature in the lecture book:
* Active participation on the practices (there is no possibility to compensate the missed practices).
* The practices begin/end according to the timetable, delay is not permitted. Attendance can only be accepted if the student is present at the venue from the beginning until the end of the practice.
* The signature in the lecture book will be refused in cases of absences from more than 50% of any special practice. All the absences must be certificated.
* AW5 mark may be given on the basis of the student’s term-time practical performance, which may be considered at the final exam grade.

Topics of the special practices:
Preparation for ceramic veneers FPD
Application of CAD-CAM systems

Assessment:
Final exam.
Prerequisites:
Prosthetic Dentistry III.

Department of Oral and Maxillofacial Surgery

Subject: ORAL SURGERY IV.
Year, Semester: 5th year/2nd semester
Number of teaching hours:
Lecture: 12
Practical: 10

1st week:
Lecture: PPT presentations

2nd week:
Lecture: PPT presentations

3rd week:
Lecture: PPT presentations

4th week:
Lecture: PPT presentations

5th week:
Lecture: PPT presentations

6th week:
Lecture: PPT presentations

7th week:
Lecture: PPT presentations
### Academic Program for the 5th Year

**8th week:**  
**Lecture:** PPT presentations

**9th week:**  
**Lecture:** PPT presentations

**10th week:**  
**Lecture:** PPT presentations

**11th week:**  
**Lecture:** PPT presentations

**12th week:**  
**Lecture:** PPT presentations

### Requirements

**Conditions of signature in the lecture book:**  
Active participation on the special practices, any delays are not permitted. Students being late for the special practices cannot join the practice. All of the absences should be certified in a credible way within three workdays. Any make-ups on the special practices are permitted in case of certified absence. Without certification and compensation of the missed practice students won’t get signature. One Power Point presentation during the semester is compulsory for every student. There are attendance lists on the lectures. Students failing the presentation or missing over 30% of lectures cannot get signature.

**Prerequisite:** Oral Surgery III  
**Assessment:** Final Exam

**Compulsory reading:**  

**Recommended Books:**  

### Department of Pediatric Dentistry and Orthodontics

**Subject:** PEDIATRIC DENTISTRY II.  
**Year, Semester:** 5th year/2nd semester  
**Number of teaching hours:**  
**Lecture:** 12  
**Practical:** 15

**1st week:**  
**Lecture:** Oral syndromes in childhood  
**Practical:** Know the methods of examination, instrumentation, treatment planning. Describe the normal anatomic structures of oral cavity of the infant.

**2nd week:**  
**Lecture:** Differential diagnosis of oral mucosal lesions.  
**Practical:** Discuss and recognize common developmental disturbances of the teeth. Classify common oral lesions and infections by clinical features.

**3rd week:**  
**Lecture:** Dental fear and anxiety  
**Practical:** Discuss etiological factors influencing the formation of dental caries in children. Develop an individualized oral health care program for the child patient.

**4th week:**  
**Practical:** Do step by step amalgam filling in posterior primary and permanent teeth. Identify and distinguish morphological differences in the primary teeth.

**5th week:**  
**Lecture:** Pharmacology in pediatric dentistry.  
**Practical:** Do the specific cavity preparation indicated in primary posterior teeth, depending on the restorative material used. Extract primary tooth

**6th week:**  
**Lecture:** The importance of age groups in preventive dentistry and in pediatric dentistry  
**Practical:** Use the several clinical procedures available for pulp care. Carry out successful pulpectomy.

**7th week:**  
**Lecture:** Children with special care and need.  
**Practical:** Recognize and treat dental injuries Fabricate a simple splinting device
CHAPTER 18

8th week:
Lecture: Child abuse and neglect
Practical: Fabricate a space maintainer

9th week:
Lecture: Minimal invasive dentistry
Practical: Restore an anterior primary and permanent tooth with composite restorative material

10th week:
Lecture: Orthodontic pediatric interface
Practical: Restore a fractured incisor with composite

crown.

11th week:
Lecture: The latest methods and dental materials in pediatric and preventive dentistry
Practical: Carry out a successful apexification.

12th week:
Lecture: Consultation, Problem based learning
Practical: Seal fissures Use preventive methods

Requirements

Lectures: As given in the timetable (time and place).
Practices: In the building of Faculty of Dentistry, Department of Pediatric Dentistry and Orthodontics.

Conditions of signing the lecture book:
Active participation on the practices
With acceptable written certificate students may miss 1 practical lesson, there is no possibility to compensate the missed practices
Assessment: Final Exam.
The final exam consists of a written and an oral part for everyone. The oral exam can be taken only if the student collects at least 60% in the written part. In case the oral exam is unsuccessful but the written part was accepted, the written part must not be repeated on the “B” or “C” exam.
Prerequisites of taking the subject: Pediatric dentistry I.

Department of Periodontology

Subject: PERIODONTOLOGY III.
Year, Semester: 5th year/2nd semester
Number of teaching hours:
Lecture: 12
Practical: 10

1st week:
Lecture: Introductory lecture.

2nd week:
Lecture: 2nd - 12th week topic: Case presentation and analysis.

Requirements

Lectures: As given in the timetable (time and place).
Case presentation and analysis: The aim of case presentations is to know all details and associations concerning the patients. Each student has to present the previous medical history and the results of physical examination, X-ray one of his/her own patient/s. Students must establish a detailed diagnosis. Questions and therapeutical alternatives are also discussed. List of the names presenting the cases will be announced on the information board during the first week.
Practices: In the building of the Faculty of Dentistry (Periodontology Department). Periodontology practices: A) Case presentation and analysis. The aim of case presentations is to know all details and associations concerning the patients. Each student presents the history and the results of physical examination, X-ray one of his/her own patients. Students must establish a detailed diagnosis. Questions and therapeutical alternatives are also discussed.
Conditions of signature in the lecture book:
Active participation on the practices (there is no possibility to make up the missed practices).
Students may miss practices with acceptable certificate, but the ratio of missed practices cannot exceed 20 %, even it is certificated.
The practical work will be evaluated at the end of each practice separately, as 'accepted' or 'not-accepted'.
The number of accepted practices must be above 80% of practices.
Missed practice is not-accepted.
Students have to fulfill the minimum practical requirements of the subject.
The minimum practical requirements of the subject will be handed out on the first week of the semester. If the required cases are not presented during the lectures, the signature of the lecture book will be refused.

Assessment: final exam.

1. Physical examination
   a) Taking previous medical history - the patient's complaint(s)
   b) Inspection - healthy periodontium - distinction from the diseased
   c) Clinical examination of periodontium - periodontal probing; probing depth, pocket depth, definition of loss of attachment and their relationship
   d) Periodontal charting and recording - definition of periodontal indices

2. Treatment of periodontal disorders in dental practice
   2.1 Instruction and motivation of patients
      a) disclosing agents and their application in practice
      b) Demonstration of different tooth brushing methods on model

2.2 Causative treatment of periodontal disorders: Scaling and root planning, curettage
   a) Instruments and their usage (hand, rotational and ultrasonic scalers; instruments for polishing, polishing pastes, maintenance of instruments)
   b) Therapy assessment: results, failures, follow up

2.3 Periodontal surgery
   Indications and contraindications of periodontal surgery, post-surgical treatments

3. Medicaments in periodontal therapy
   a) Chemical plaque control
   b) Antibiotics in periodontics
   c) Subgingival irrigation
   d) Periodontal dressings, tissue adhesives in practice
   e) Treatment of root hypersensitivity

Special oral hygiene aids, instruments

4. Periodontal aspects of implantology
   Treatment of patients in practice

B) Includes the examination and treatment of the patients during the complex dental practices (prosthetic dentistry, pediatric dentistry, restorative dentistry).

1. Examination of the patient:
   a) History taking - complaints of the patient
   b) Inspection - separating the healthy and sick periodontium
   c) Clinical examination - using the periodontal probe
   d) Registration of the periodontal status, periodontal indices

2. Periodontal treatments in practice:
   a) Motivating, private tuition of the patient
      a) Plaque staining
      b) Demonstration of different tooth brushing techniques
   b) Assessment of the treatment

   Surgical treatments (indications, contraindications, post operative treatments)

3. Drug use in periodontal therapy
   a) chemical plaque control
   b) Antibiotics
   c) Subgingival irrigation

4. Periodontal aspects of dental implants (use of special oral hygiene instruments)

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Department of Restorative Dentistry

Subject: RESTORATIVE DENTISTRY IV. (CARIOLOGY AND ENDODONTICS)

Year, Semester: 5th year/2nd semester

Number of teaching hours:
Lecture: 12
Practical: 10

1st week:
Lecture: Microscope and magnifiers. Minimal invasive non preparation treatment options.

2nd week:
Lecture: Esthetic direct restorations I. (Diastema closure, form corrections, smile design.)

3rd week:
Lecture: Esthetic direct restorations II. (Cavity class IV, direct composite veneer.)

4th week:
Lecture: Root resorption (classification and treatment).

5th week:
Lecture: Treatment of fractured teeth (crown and root fractures).

6th week:
Lecture: The importance of follow-up in endodontics (wound healing and repair following endodontic therapy). Focal infection theory.

7th week:
Lecture: Written exam

8th week:
Lecture: Case presentation

9th week:
Lecture: Case presentation

10th week:
Lecture: Case presentation

11th week:
Lecture: Case presentation

12th week:
Lecture: Case presentation / Consultation
Requirements

**Examination:** Final Examination (FE_oral exam)

**Materials for exam preparation:** official lecture book, lectures and materials of the special practicals.

**Requirements for signing the lecture book:**

- During the semester, in accordance with the course requirements there is one written test that takes place during a lecture. There is a chance of improvement of this written test on the 12th week of the semester. Result of any missed tests conclude to a fail (1) grade.

**ENDODONTICS CASE PRESENTATION**

During the case presentation, student is required to present the case of his/her own patient (molar tooth) treated with rubber dam isolation.

**Presentation requirements:**

- Filled and signed endodontic form without any missing details
- Evaluable radiological documentation
- Logically built up computer presentation

The mandatory endodontics case study is planned according to previously agreed date and is presented in sequence order.

**!! Missing the presentation of case study, or missing any part of the above mentioned listed requirements, results in the refusal of signing the lecture book.**

**Special practicals:**

- The practices start and finish in accordance with the timetable, arriving late is not allowed.
- Students are required to stay at the premises of the practical from the beginning to the end of the class and participate actively in the practical work.
- Absences, in theory, are not allowed.
- In reasoned cases, for certified absences the department ensure make up classes for students on a previously agreed date, during the semester.

**A certification is required for any absences which has to be handed to the leader of the practice course.**

- At the end of each practical student’s work is evaluated with a grade based on the knowledge of his/her theory, practice work and manuality.
- At the end of the semester, student is given a grade for his/her term work based on the average of the grades given during the semester.

**Grade formation**

The result of the test and the grades of special practicals can impact on the grade of the oral exam.

**Requirements for taking up the subject:** Restorative Dentistry III. (Cariology and Endodontics)

**Special practice (2nd semester) 2x5 lessons:**

1. Rotary instrumentation III. Warm obturation: vertical compaction
2. Chair-side direct composite inlay
# REQUIRED ELECTIVE COURSES

## CHAPTER 19
**REQUIRED ELECTIVE COURSES**

### Department of Biomaterials and Prosthetic Dentistry

**Subject:** ESTHETIC DENTISTRY  
**Year, Semester:** 4th year/1st semester  
**Number of teaching hours:** Lecture: 15

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week:</td>
<td>Introduction to Esthetics Morphopsychology and Facial Esthetics. Esthetic Smile. Landmarks and Proportions of the Face. Treatment planning, Documentation in Esthetic Dentistry</td>
</tr>
<tr>
<td>2nd week:</td>
<td>Esthetics and its relationship to Function I. Esthetics and its relationship to Function II. Morphological Changes During a Lifetime</td>
</tr>
<tr>
<td>3rd week:</td>
<td>Metal-Ceramic and All-Ceramic Crows and Bridges. Periodontal Esthetic Surgery, Oral and Maxillofacial Esthetic Surgery</td>
</tr>
<tr>
<td>4th week:</td>
<td>Tooth Color Science, Tooth Color Analysis, Bleaching Methods. All-Ceramic Inlays and Onlays. Ceramic Veneers. Esthetics in Implantology</td>
</tr>
</tbody>
</table>
| 5th week: | Self control  
**Self Control Test** |

### Requirements

Contact person Dr. Tünde Radics

Deadline of registration for the subject: the end of the second week of the first semester of the Academic Year.  
The required minimum number of attendants is 10.

**Conditions of signature in the lecture book:**

Five grade (AW5) practical grade evaluation. The final AW5 marks are decided according to the marks given during the semester. At least 1 written or oral self-control tests will be held during the semester, the preannunciation of which is not obligatory for the department. Any self-control test with a failed (1) result can be repeated once during the semester, in a given time. If the student fails to improve the result, the final AW5 grade is “failed” (1), and the grade must be improved during the examination period, as a “B” or “C” chance.

**Assessment:** AW5

**Prerequisites:**  
Propedeutics and Technology of Total and Partial Removable Dentures

### Subject: HISTORY OF DENTISTRY, PROSTHETIC DENTISTRY COMPULSORY ELECTIVE I.

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week:</td>
<td>Introduction to the history of dentistry.</td>
</tr>
<tr>
<td>2nd week:</td>
<td>The ancient Orient. Egypt, Mesopotamia, Palestine and Syria. India.</td>
</tr>
<tr>
<td>3rd week:</td>
<td>The far east: China, Japan.</td>
</tr>
<tr>
<td>4th week:</td>
<td>Pre-Columbian America: Aztec, Maya, Inca culture.</td>
</tr>
</tbody>
</table>
CHAPTER 19

5th week:
Lecture: Greco-Roman medicine.

6th week:
Lecture: Aftermath of antiquity in east and west.

7th week:
Lecture: The world of Islam.

8th week:
Lecture: High and late middle ages in Europe. Self-control test
Self Control Test

9th week:
Lecture: Awakening of natural sciences.

10th week:
Lecture: The 18th century.

11th week:
Lecture: Dentistry in the industrial ages. Prosthetics.

12th week:
Lecture: Conservative dentistry. Self-control test
Self Control Test

13th week:
Lecture: Dental surgery. Orthodontics.

14th week:
Lecture: Research and teaching.

15th week:
Self Control Test

Requirements

Requirements:

Lectures: Contact person Dr. Tamas Bistey
Deadline of registration for the subject: the end of the second week of the first semester of the Academic Year 2014/2015
The required minimum number of attendants is 10.

Conditions of signature in the lecture book:

The final AW5 marks are decided according to the marks given during the semester.
At least 1 written or oral self-control tests will be held during the semester, the pre annunciation of which is not obligatory for the department.
Any self-control test with a failed (1) result can be repeated once during the semester, in a given time. If the student fails to improve the result, the final AW5 grade is “failed” (1), and the grade must be improved during the examination period, as a “B” or “C” chance.
Assessment: AW5

Subject: PRAXIS MANAGEMENT
Year, Semester: 5th year/2nd semester
Number of teaching hours:
Lecture: 12

1st week:
Lecture: Course introduction. What is a dental practice?

2nd week:
Lecture: Performance and achievement. Stress management.

3rd week:
Lecture: Locating, designing a dental office.

4th week:

5th week:
Lecture: Stock control.

6th week:
Lecture: Equipment and maintenance.

7th week:
Lecture: Staff management. The working team.

8th week:
Lecture: Time management.

9th week:
Lecture: The appointment book.
10th week:
Lecture: Painless paperwork.

11th week:
Lecture: Quality management.

12th week:
Lecture: Summary: How to professionally market your dental practice?

Department of Anatomy, Histology and Embryology

Subject: ADVANCED HISTOLOGY
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Seminar: 16

Requirements
Written exam.

Subject: FUNCTIONAL ANATOMY OF BRAINSTEM
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Seminar: 16

1st week:
Seminar: Organization of the brainstem - overview

2nd week:
Seminar: Control of jaw movement and facial expression. Organization of the sensory trigeminal system

3rd week:
Seminar: Deglutition and phonation: the ambiguous nucleus. The accessory and hypoglossal nucleus. Cranial parasympathetic outflow

4th week:
Seminar: Central vestibulocochlear system

5th week:
Seminar: Selected clinical cases

6th week:
Seminar: Selected clinical cases.

7th week:
Seminar: Selected clinical cases.

8th week:
Seminar: Selected clinical cases.

Requirements
Written exam
The course aims to provide a comprehensive overview of the visual system. In addition to this, special emphasis will be made on the relationship between structure and function along the visual pathway. The topics will include clinical aspects as well as recent results from the field of visual neuroscience.
CHAPTER 19

Subject: **FUNCTIONAL ANATOMY OF THE VISUAL SYSTEM**  
Year, Semester: 2nd year/2nd semester  
Number of teaching hours: Seminar: 16

1st week:  
**Seminar:** Functional anatomy of the retina:  
Intra-retinal connections, photo-transduction, light adaptation, receptive field types.

2nd week:  
**Seminar:** Color processing:  
Color theory and signaling mechanisms in the retina, blue cones and the konicellular system, interactions between color channels.

3rd week:  
**Seminar:** The role of thalamus in vision:  
Receptive field interactions, synaptic connections and network organization, firing modes of thalamic neurons, information transfer, EEG.

4th week:  
**Seminar:** The structure of the visual cortex:  
Neuron types and connections, transmitter specific connections in the cortex, synaptology of cortical neurons.

5th week:  
**Seminar:** Information processing in the visual cortex and receptive field characteristics:  
The origin of orientation selectivity, modeling of orientation selectivity.

6th week:  
**Seminar:** Functional mapping of the visual cortex:  
Mapping tools, mapping of visual modalities, functional maps and their relationship by correlation analysis.

7th week:  
**Seminar:** Visual processing in higher order visual cortical areas:  
V1, V2, V3 and higher, dorsal and ventral streams in the mammalian visual cortex, retinal prosthesis and clinical applications for restoring vision.

8th week:  
**Seminar:** Plasticity and learning in the visual cortex.

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**Requirements**

Written exam  
The course aims to provide a comprehensive overview of the visual system. In addition to this, special emphasis will be made on the relationship between structure and function along the visual pathway. The topics will include clinical aspects as well as recent results from the field of visual neuroscience.

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Subject: **NOCICEPTIVE SENSORY INFORMATION PROCESSING AT THE LEVEL OF THE SPINAL CORD IN HEALTH AND DISEASE**  
Year, Semester: 2nd year/2nd semester  
Number of teaching hours: Seminar: 18

1st week:  
**Seminar:** 1. Nociceptors and nociceptive primary afferents.

2nd week:  
**Seminar:** 2. Chemical neuroanatomy of synaptic contacts between nociceptive primary afferents and secondary sensory spinal neurons.

3rd week:  
**Seminar:** 3. Morphology, synaptology, and chemical neuroanatomy of the spinal dorsal horn.

4th week:  
**Seminar:** 4. Propriospinal and projection systems of the spinal dorsal horn.

5th week:  
**Seminar:** 5. Endogeneous pain attenuation system of the central nervous system.

6th week:  
**Seminar:** 6. Chemical reorganization of the spinal dorsal horn in inflammatory and neuropathic pain conditions.

7th week:  
**Seminar:** 7. Opioid and cannabinoid mechanisms in acute
and chronic pain.

8th week:

9th week:

Requirements

Subject: SELECTED PROBLEMS OF THE NEURAL CONTROL: MODELLING OF SINGLE NEURONS AND NEURAL NETWORKS
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Seminar: 12

1st week:
Seminar: 1. Role of modelling in acquisition of scientific knowledge, fundamental neuron models.

2nd week:

3rd week:
Seminar: 3. Case study: motor control at the level of motoneurons, analysis of propriospinal connections of spinal motoneurons.

4th week:

5th week:
Seminar: 5. Case study: Control of swimming frequency in the central pattern generator.

6th week:
Seminar: 6. Case study: rostro-caudal, bilateral and intrasegmental coordination during swimming; why the tadpole swims forward and not backward.

Requirements

Written exam

Department of Behavioural Sciences, Faculty of Public Health

Subject: BEHAVIOURAL MEDICINE
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 10

1st week:
Lecture: Health illness representations.

2nd week:
Lecture: Perceived control in health changes.

3rd week:
Lecture: Role of personality in changes of health status.

4th week:
Lecture: Psychosocial aspects of hospitalisation.

5th week:
Lecture: Psychologically demanding treatments and their control.

6th week:
Lecture: Common psychological reactions to hospitalisation.

7th week:
Lecture: Children in hospital.

8th week:
Lecture: Chronically ill patient and his/her illness.

9th week:
Lecture: The stigmatised patient.

10th week:
Lecture: Social support.

Requirements

Fourth year students should pass the exam at the end of the first semester (AW5). This examination includes the
Subject: COMMUNICATION SKILLS
Year, Semester: 1st year/1st semester
Number of teaching hours:
Practical: 30

1st week:

2nd week:
Lecture: Elements of communication. Communication channels.

3rd week:
Lecture: Verbal and non-verbal communication.

4th week:

5th week:
Lecture: Interpersonal skills and style of communication.

6th week:
Lecture: Anxiety/Assertivity/Agression in communication.

7th week:
Lecture: Conflict management. The difference between feedback and criticism.

8th week:
Lecture: Doctor-patient communication. The role of confidence.

9th week:
Lecture: Field practice.

10th week:
Lecture: Field practice.

11th week:
Lecture: Movie.

12th week:
Lecture: Discussion the experiences about the movie.

13th week:
Lecture: Exam (Introduction to medical psychology). Discussion of the results.

14th week:
Lecture: Presentation of the field study. Feedback for the presenters.

15th week:

Requirements

Aims:
Introducing and recognizing fundamental characteristics of human communication and developing basic knowledge, skills and attitudes which are most important in doctor patient relationship. This course serves as a basis for the continuation of third year studies of more specific communicational knowledge needs for healing and curing in the field of medical practice.

Framework and process of learning:
In form of small-group learning discussions, role-plays, observational tasks will be introduced by which students can be active participants in learning by acquiring not only theoretical issues. Because teachers guide semi-structured seminars, student will be facilitated to give feedback, express opinions and propose available topics, which could build into to learning process.

During first seminars individual learning objectives can be elaborated together with teacher and classmates and can be achieved alongside the main objectives of the whole group.

Standpoints of the observational task of communication class:
For the purpose of developing so called observational skills, a special task will be introduced. Students will be requested to watch systematically human behaviours at different places where one can perceive various forms of formal and informal communication (two weeks will be given for completing observations instead of attending seminars during this period. Seminars will be continued after two weeks break). Sensitivity toward relating phenomena can be enhanced by these observational tasks. Several places of health case system, like wards, surgeries for outpatients, waiting rooms or other places like libraries, the campus where many
human interactions can be observed are available. Students will be asked to prepare a presentation and deliver it in front of the group. (Presentations will be held on the following week after finishing observations) and write an essay on the basis of their experience (volume: 4-5 pages, relevant theoretical background can be embedded. Deadline of giving in is the second week following the presentations). The presentation will be given for the whole group and classmates will give feedback using structured criteria-system (see formative Assessment table on the back of the sheet. Presentation skills, proper use of nonverbal communicational channels can be assessed by which improvement of personal communicational skills can be facilitated. After completed observational task the basic verbal communicational skills will be practiced using role-plays (or simulated patients- at given groups). Main forms of possible doctor-patient conversations can be discussed, as history taking, problem-, supportive-, and bad-new-conversations.

Oral Presentation: Formative Assessment
Skills and Qualities
Content/Text
Answers the question/deals effectively with the task. Demonstrates appropriate skills in analysis/synthesis/evaluation/application etc. Use of evidence/examples etc.
Structure/Logic
Forecasting e.g. introduction.
Sign positing e.g. beginning and end of subtopics, key points/foci (highlighting important points) linking, sequencing, summarising, closure i.e. concluding.
Delivery/Presentation
Voice (intonation, emphasis, pace, pauses, and silences).
Eye contact; posture, mannerisms, appearance, rapport with audience, timing etc. Audio Visual Aids.
Handling Questions
Responding engaging others in discussion, managing the audience (e.g. encouragement, constructive feedback).
Knowledge, depth or answer

Subject: MEDICAL ANTHROPOLOGY
Year, Semester: 3rd year/1st semester
Number of teaching hours: Seminar: 15

1st week:
Seminar: "Roots" and "shoots" of medical anthropology: the web of basic concepts.

2nd week:
Seminar: Historical - cultural determination of medical concept of man.

3rd week:
Seminar: Medical knowledge: cultural and epistemological background of its legitimacy.

4th week:

5th week:
Seminar: Doctor-patient interaction: a cultural anthropological aspect.

6th week:
Seminar: Explanatory models and illness narratives explaining doctor-patient bonds.

7th week:
Seminar: Cultural definition of anatomical and physiological concepts.

8th week:
Seminar: Medical treatments vs. alternative treatments: the concepts of alternative medicine.

9th week:
Seminar: Death and dying: anthropology of loss and bereavement.

10th week:
Seminar: Biological and social death in Western societies.

11th week:
Seminar: Rituals and their relation to health.

12th week:
Seminar: Ethnomedicine and its European school.

13th week:
Seminar: The concept of man in medicine: a text analysis.

14th week:
Seminar: The nature of the scientific basis in medical knowledge: a test analysis.
CHAPTER 19

15th week:
Seminar: Concluding discussion.

Requirements

Participating in seminars, giving a presentation on a given topic.
Evaluation: Based on the activity at seminars and on a 14th week test.

Course Objectives and Course Outline: The object of medical anthropology is the human being, as he/she appears in the context of health and disease, in the healing processes and in the health-care system. The basic method of medical anthropology is historic-hermeneutical in the sense that man is investigated by this discipline in historical and cross-cultural relations; it is an integrative study and in this role it uses the contributions of different forms of knowledge (philosophical anthropology, social philosophy, cultural anthropology, psychoanalysis, sociology, etc.); the problems of health-illness is discussed in socio-economic dynamics; it deals with biomedical approach as a cultural product and in this way it draws the attention to the relation between individual experience, cultural meaning and social structure. The medical anthropology semester consists of 15 hours seminar; these are organised in two-hour seminars in every second week.

Method: Every student should actively participate by presenting a short lecture on a chosen topic (possibly in group-work). One hour from the 15 hour course will be reserved for tutorial discussion with the instructor during the preparation period. Every student should read a given paper for every seminar and is expected to put the presenters questions concerning the topic a few days before the seminar. The seminars can only be successful, if students participate actively in the discussions.

Requirement for the AW5 evaluation: Passing the last week test/essay, which is based on the course textbook, the compilation of readings and seminar discussions.

Subject: MEDICAL SOCIOLOGY
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 15

1st week:
Lecture: I
8th week:
Seminar: Introduction to Medical Sociology.
9th week:
Seminar: Social Inequalities and Health.
10th week:
Seminar: Sociology of Medical Knowledge.
11th week:
Seminar: Quality of Life.

12th week:
Seminar: Social Aspects of Health and Illness.
13th week:
Seminar: Medicalization.
14th week:
Seminar: Social Aspects of Doctor-Patient Relationship.
15th week:
Seminar: End of Course Test

Requirements

Requirements. Making a presentation is prerequisite for the end of course test.

Department of Biochemistry and Molecular Biology

Subject: MOLECULAR MECHANISM OF DISEASES CONCERNING GREAT POPULATIONS
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 25

1st week:
Lecture: Introduction to molecular medicine
2nd week:
Lecture: Genomic medicine
### REQUIRED ELECTIVE COURSES

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; week</td>
<td>Lecture: Diabetes</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Obesity</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Vitamin D and immunodefects</td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Cancer I.</td>
</tr>
<tr>
<td>7&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Cancer II.</td>
</tr>
<tr>
<td>8&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Cancer II.</td>
</tr>
<tr>
<td>9&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Osteoporosis</td>
</tr>
<tr>
<td>10&lt;sup&gt;th&lt;/sup&gt; week</td>
<td>Lecture: Immunedeficiencies</td>
</tr>
</tbody>
</table>

### Requirements

Attendance on the lectures is compulsory.

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### Department of Biophysics and Cell Biology

**Subject:** COMPUTER SCIENCE  
**Year, Semester:** 1<sup>st</sup> year/2<sup>nd</sup> semester, 1<sup>st</sup> year/1<sup>st</sup> semester  
**Number of teaching hours:**  
**Practical:** 30

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; week</td>
<td>Exemption Tests.</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; week</td>
<td>Exemption Tests.</td>
</tr>
</tbody>
</table>
| 3<sup>rd</sup> week | Word processor programs, MS Word I.1.  
File: save, save as, print, new document, open2.  
Editing text 1: input letters, cursor, copy, paste, paste special, cut, move, clipboard, undo, redo3.  
Editing text 2: selecting text, mouse, keyboard, shift, control, home, end, pgup, pgdown4.  
Home 1: formatting font, font size, font color, typeface, bold, italic, underline, highlighting, super/subscript, customize menu5.  
Home 2: formatting paragraph, line spacing, indentation (left, right, first line, hanging), alignment (Tabs: left, center)6.  
Home 3: bulleted, numbered list, searching text, find, replace, select all7.  
Insert: tables, inserting pictures, shapes, page numbers, header, footer, page break, symbols, (text box)8.  
Page layout: margins, orientation, size, manual setting of margins, columns, line numbers, watermark, page color, page borders |
| 4<sup>th</sup> week | Word processor programs, MS Word II.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
| 5<sup>th</sup> week | Spreadsheets programs, MS Excel I.1.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
| 6<sup>th</sup> week | Spreadsheets programs, MS Excel II.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
| 7<sup>th</sup> week | Spreadsheets programs, MS Excel III.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
| 8<sup>th</sup> week | Spreadsheets programs, MS Excel IV.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
| 9<sup>th</sup> week | Fundamentals and basic concepts of informatics.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
| 10<sup>th</sup> week | Logical and physical realization of networks.  
Entering data (difference b/w text & numbers), autofill series (numbers, days, months, etc.), adjusting column width2.  
Editing: copy, paste, move, inserting/deleting lines/rows, selecting non-adjacent rows/columns (Ctrl)3.  
Entering formulas (=), symbols for mathematical operations (+-*^/EXP()), copying cells with formulas, relative/absolute reference4.  
Using functions, statistical functions: average, stdev, count, sqrt, countif, if, calculating SEM, etc.5.  
Creating charts: bar chart, scatter plot, error bars, labels6.  
Formatting charts: colors, symbols, axis scaling, chart title, axis title7.  
Data sorting by one or more criteria, filters8.  
(Statistical tests (F-test (equal variance test), t-test assuming equal/unequal variances)) |
CHAPTER 19

3rd week:
Lecture: 1-3. Luminescence spectroscopy. Theoretical background and principles of application of fluorescence spectroscopy to study the structure of proteins, nucleic acids and that of the cell membrane. Fluorescence conjugation of biomolecules, techniques based on fluorescence polarization and fluorescence resonance energy transfer.

4th week:

Requirements

The acquisition of fundamental theoretical and practical knowledge from the function of the modern personal computers. Course description: PC architecture, operating systems, file management, network knowledge, internet and its opportunities of application, word processor, spreadsheet, the usage of presentational programs, the achievement of scientific databases and its use. Without registration, there is no way to do the course! First year students who missed/skipped the exemption test, but signed up for the course in the Neptun must attend the course and do the final test at the end. For students attending the informatics course a maximum of 4 absences are allowed during the semester to receive a signature (we recommend to use as few as possible, in case an emergency comes up). This is taken very seriously! Missing more than 4 classes automatically means losing the chance to pass the course. There will be a final test at the end of the semester. For students attending the informatics course a maximum of 4 absences are allowed during the semester (we recommend to use as few as possible, in case an emergency comes up). This is taken very seriously! Missing more than 4 classes automatically means refused signature therefore losing the chance to pass the course. Every student allowed to make up the missed practicals with another group but only on the given week, if there are enough free seats in the room. For students attending the informatics course a maximum of 4 absences are allowed during the semester to receive a signature (we recommend to use as few as possible, in case an emergency comes up). This is taken very seriously! Missing more than 4 classes automatically means losing the chance to pass the course. There will be a final test at the end of the semester. Every student is allowed to make up the missed practicals with another group but only on the given week, if there are enough free seats in the room. The course start with an exemption test. Only first year students allowed to write the exemption test at the first week of the given semester with their group (appointment should be checked in the given timetable). In any other cases (students older than first year/repeaters/students who are not exempted) has a final test at week 14 of the given semester. There is no other self control test during the semester. At the end of the course students will write a final test. The exemption and the final tests covers topics and skills in connection with Microsoft office Word, Excel, and PowerPoint (versions:2007/2010) programs, as written in the curriculum. Both of the tests (exemption and the final test) are written tests. The tests are practical tests, conducted in the computer room. Students passing the exemption test will automatically receive 5 (excellent) grade at the end of the semester. Final grades based on the final test score will be given according to the following table: 61% = grade 1 (fail) 61%-70% = grade 2 (pass) 71% - 80% = grade 3 (satisfactory) 81% - 90% = grade 4 (good) 91% = grade 5 (excellent) Students should download free Office guide books from the following link. (Email registration is required for downloading files). Students who did not get exemption/did not show up at the exemption test/repeaters/students older than first year MUST ATTEND on the course. They should join to one of the groups mentioned in the timetable. The number of the seats is limited in the classroom. Students who has informatics course in the given appointment (according to the timetable) have priority to attend the lesson. Others are allowed to join to the given group if there are more free seats. Older students have to do the whole course as well. Students passing the exemption test will automatically receive 5 (excellent) grade at the end of the semester. Students who failed the exemption test must attend the course and do the final test at the end. Students having ECDL (European Computer Driving Licence) are not required to write the exemption test, instead, they can submit exemption request to the Education Office. Until You are waiting for the decisions, You should also come to the course!!!
REQUIRED ELECTIVE COURSES

5th week:

6th week:

7th week:

8th week:

9th week:
Lecture: 19-21. Medical applications of NMR and MRI.

10th week:
Lecture: Test

Requirements

Conditions for signing the lecture book: Attending 5 lectures out of 7. Attention! Lecture books are handled exclusively by the study advisor during the dedicated office hours (see on the website of the Department of Biophysics and Cell Biology)!

Type of examination: practical grade, 5 levels
Scoring:
below 50%: fail
51%-59%: pass
60-69 % : satisfactory
70-85 %: good
above 85% excellent

Examination: Written test. The exam is during the 8th lecture.

Repeated/improved exam: during the examination period.

Subject: SELECTED TOPICS IN CELL BIOLOGY
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 24

3rd week:
Lecture: Something only your mother can give you: the mitochondrion

4th week:
Lecture: Receptor tyrosine kinases: regulation by interactions and compartmentation of signaling components (2 lectures)

5th week:
Lecture: Lecture: From cell biology to preclinical models: CDKs as drug targets

6th week:
Lecture: Targeting tumors with reprogrammed “designer” T cells

7th week:
Lecture: What goes up, must come down: Degrading proteins and lipids - and the consequences of aberrant pathways

8th week:
Lecture: Something only your mother can give you: the mitochondrion
CHAPTER 19

9th week:
Lecture: Recombination: Break the genome to save it!

10th week:
Lecture: A strict rule in multicellular development: cells must behave, otherwise their fate is apoptosis or …

11th week:
Lecture: Ion channels: cellular physiology and disease

12th week:
Lecture: Newly discovered mechanisms in the regulation of cell division.

13th week:
Lecture: Lecture: Recycling and molecular interactions of ErbB2 – implications for cancer therapy

14th week:
Lecture: Lecture: GFP and friends. The colorful molecule that drew the Nobel Prize.

Requirements

Please check for details on the course at:
http://biophys.med.unideb.hu/en/node/1886

Requirement for signature:
- maximum 3 recorded absences total
- signing up for the electronic course at http://tavoktatas2.med.unideb.hu by the end of week 5

Exam type: Electronic test

Grading: > 50% = pass, >60% = satisfactory, >70% = good, >80% = excellent

Those failing or not taking the test at the end of the course can take regular A, B and C exam in the exam period.

Department of Foreign Languages

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

1st week:
Seminar: Introduction into medical terminology; Greek and Latin origins of nomenclature.

2nd week:
Seminar: Directional terms. Adjectives.

3rd week:
Seminar: Body parts. The dictionary form of Latin nouns.

4th week:
Seminar: Latin and Greek parallels. Suffixes.

5th week:
Seminar: The skeleton. Plural forms.

6th week:
Seminar: Skeleton II. Formation of adjectives.

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

8th week:
Practical: Regions. Formation of adjectives.

9th week:
Practical: The oral cavity and the teeth. Latin numerals.

10th week:
Practical: Joints. Complex adjectives.

11th week:
Practical: Word formation: nouns from verbs.

12th week:
Practical: Muscles.

13th week:
Practical: Prefixes.

14th week:
Practical: Revision. End term test

15th week:
Practical: Evaluation

Requirements

Requirements of the Latin language courses Attendance
Language class attendance is compulsory. The maximum ratio of allowable absences is 10% which is a maximum of 2
REQUiRED ELECTiVe COURSES

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

Testing, evaluation
In each language course, students have to sit for 2 written language tests. Further minimum requirement is the knowledge of 300 words in each semester announced on the first week. Every week there is a (written or oral) word quiz from 30 words in the first 5-10 minutes of the class. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam from all the 300 words on the last week of the semester. The results of word quizzes can modify the evaluation at the end of the semester.

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

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

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

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

Coursebook: Répáš, László: Basics of Medical Terminology (Latin and Greek orginis)
Website: Minimum vocabulary lists and further details are available on the website of the Department of Foreign Languages: ilekt.med.unideb.hu

Department of Human Genetics

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

1st week:
Lecture: 1. Introduction to molecular genetics and genomics.
Thompson: Genetics in Medicine; Ch. # 1.
Thompson: Genetics in Medicine; Ch. # 2.
3. Cytogenetics I. Karyogram, ideogram, banding techniques. Human autosomal trisomies; Thompson: Genetics in Medicine; Ch. # 5.


2nd week:
5. Cytogenetics III. Sex determination in humans.

Molecular cytogenetics.
Thompson: Genetics in Medicine; Ch. # 5.6. The structure of genes.
Thompson: Genetics in Medicine; Ch. #3.
Practical: Seminar on molecular genetics. Gene structure and function.

3rd week:
Lecture: 7. The function of genes. Gene expression;
Thompson: Genetics in Medicine Ch# 5.
8. Bacterial genetics. Gene regulation in prokaryotes
Lecture notes on departmental homepage.
9. Gene regulation in eukaryotes
Thompson: Genetics in Medicine; Ch # 3.
Practical: Seminar in molecular genetics.
Gene regulation. Bacterial genetics.

4th week:
Lecture: 10. Genomics, proteomics, the human genome project.
Lecture notes on the departmental homepage.
CHAPTER 19


1st test in extra time.

Self Control Test (Thompson: Genetics in Medicine Ch # 1, 2, 3, 4, 5, 6, lectures 1-9, seminars 1-3)

5th week:


15. The genetic role of RNA. Lecture notes on departmental homepage.

6th week:


Practical: Seminar on molecular genetics of genetic diseases. Internet search in databases (homework).

7th week:

20. The molecular, biochemical and cellular basis of genetic diseases II. Thompson: Genetics in Medicine; Ch. # 12.


Practical: Changes in genetic information.

8th week:

23. Cancer genetics and genomics. Thompson: Genetics in Medicine; Ch #16.


Practical: Seminar on recombinant DNA, developmental or oncogenetics.

9th week:
Lecture: Medical genomics lecture 1
Medical genomics lecture 2
Medical genomics lecture 3
Practical: Medical genomics seminar 1.

Second genetics test in extra time.
Self Control Test (Thompson: Genetics in Medicine Ch 7, 8, 9, 10, 11, 12, Lectures 10-24. Seminars 4-8.)

10th week:


27. Developmental genetics and birth defects. Practical: Medical genomics seminar 2.

11th week:


30. Genetic counseling and ethical issues. Thompson: Genetics in Medicine; Ch. # 19, 20.


12th week:
Lecture: Medical genomics lectures 4-6.

13th week:
Lecture: Medical genomics lectures 7-9.
Practical: Detection of a human DNA polymorphism by polymerase chain reaction. Practical courses in Genetics pp. 85 - 89 and handout from homepage. 3rd test in extra time.

Self Control Test (Thompson: Genetics in Medicine, Ch 13, 14, 15, 16, 17, 18, 19, 20. Lectures: 25-30, Practicals: weeks 11-12)

14th week:
Lecture: Medical genomics lectures 10-12.

15th week:
Conditions of signing the lecture book:
Concerning attendance, the rules are set out in the Rules and Regulations of the University are clear. The presence of students at laboratory practices and seminars is obligatory and will be recorded. Students are responsible for signing the list of attendance. The professor refuses his/her signature in the student's Lecture Book for the semester's course-work in the case of over four weeks of absence, even if the student has an acceptable excuse. If the student is absent from more than two practices or seminars, the semester will be accepted only if he/she passes an examination based on the material covered by the laboratory classes of the semester (labtest). Students have to take notes during lab classes and seminars. The notes are occasionally inspected and signed by the instructors. If 3 or more laboratory or seminar notes are missing, the student must take a labtest to qualify for the signature of the lecture book. Missed laboratory classes may only be made up for in the classes with other groups during the same week. For permission to make up a missed laboratory class please consult the academic advisor. If the student is absent from more than 4 practices and seminars, the signature will be denied and the student has to repeat the semester.

During the semester there will be three self-control tests offered in the 4th, 9th and 13th weeks. The questions include multiple choice and short essay questions, figures, pedigrees, definitions, etc. Based on the % average of the three tests a final grade will be offered according to the next table:

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.00 - 64.99</td>
<td>pass (2)</td>
</tr>
<tr>
<td>65.00 - 74.99</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>75.00 - 84.99</td>
<td>good (4)</td>
</tr>
<tr>
<td>85.00 - 100</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Attendance of at least two of the tests is obligatory and it is a condition for signing your lecture book. Those students who want a better mark have to take the regular end of semester "A" exam. The result of this ESE is binding, it can be better, the same or worse than the offered mark. Students with lower achievement than 60% should take the regular ESE.

Rules concerning repeaters:
Attendance of labs and seminars for those repeaters who have a signed lecture book from the previous year (i.e. they failed, or they are repeaters because they have never taken Genetics exam) is dispensable. Students should register for the subject electronically during the first weeks of the semester. They can take the three midterm tests in order to qualify for an offered grade based on these tests, or for test bonuses and they take the regular exam at the end of the semester. They cannot have home-work bonuses. Students, who did not earn a signature in the previous year have to register and attend the labs and seminars and they are considered as the other students registering the course at the first time.

Exemption requests:
Applications for exemption from the course (based on previous studies at other schools) should be submitted during the first two weeks of the semester. Requests are not accepted after that deadline! Exemption is granted if an "assessment of knowledge" test is passed. The passing limit is 50%.

End of Semester Exam (regular assessment of your course work):
There will be a written examination (ESE) at the end of the semester that covers all the material of the semester taken in the lectures, seminars, and laboratory practices. The examination questions include multiple choice and short essay questions, figures, definitions, etc. The marks are based on the student's performance, expressed in percentage (%) as shown in the table below:

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 49.99</td>
<td>fail (1)</td>
</tr>
<tr>
<td>50.00 - 64.99</td>
<td>pass (2)</td>
</tr>
<tr>
<td>65.00 - 74.99</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>75.00 - 84.99</td>
<td>good (4)</td>
</tr>
<tr>
<td>85.00 - 100</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

The percentage values include the student's performance at the ESE as well as the bonus percentage they have obtained by taking the three mid-semester tests, and submitting the homeworks. The bonus percentage is based on the average result of the three mid-semester tests. Absence counts as 0%. Bonuses are calculated only in the year of acquisition. Further bonus points (1 points each) are given for the timely and correct completion of the following midterm home-
Chapter 19

Works:
Analysis of human karyograms. Problem solving in genetics. Use of databanks through the Internet. Problem solving in population genetics. Maximum number of bonus points is 14.
The submission of home-works is voluntary. Homeworks are not accepted after the submission deadline.
As a first task of the examination medical student receives 10 basic questions. You have to answer correctly at least 7 of them to qualify for the exam. If you cannot answer correctly the required minimum number of questions your exam is considered unsuccessful. You have to pass this basic question exam only once in a semester. If you have to repeat the semester, you have to repeat the basic question exam, too. Students, who received offered grade do not have to answer the basic questions.

The slides of the lectures and up-to-date information can be found at www.genetics.dote.hu, username: medical_genetics, password: arachnodactyla. Click on "Oktatás" (teaching) and Downloads or Information and Medical genetics.

Subject: MEDICAL GENOMICS
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 20

9th week:
Lecture: 1. Medical genome biology: relevance and history.
2. Application of genome biology for pharmaceutical and biotechnological research.
3. Introduction into bioinformatics. DNA sequence comparison, sequence data management and analysis.
Practical: 1. Sequence alignment practical.
2. Browsing databases for human disease genes.

10th week:
Practical: 3. Association of DNA polymorphisms with complex diseases.
4. Using the public gene expression databases.

12th week:
The use of DNA microarrays in medical diagnosis.
5. Practical and technical aspects of gene expression analysis.
6. Immuno-proteomics, methods and applications.

13th week:
Lecture: 7. Technologies for testing human genome sequence and proteome variability.
8. Systems biology and medical diagnostics.
Biotechnology.
9. Bioinformatics II. Protein sequence comparison, motifs, prediction of 3D structure, multiple sequence alignments.

14th week:
12. Evolutionary genome biology.

15th week:
15. Nanotechnology and medicine.

Requirements

Minimum requirements of the signature:
Electronic registration through Neptun.
Active participation on week 9 and 10 medical genomics seminars – proved with signed attendance-sheets.
Those, who do not meet these requirements, cannot take the examination.

It is very much recommended to attend the medical genomics lectures during week 9 and 12-15 and to take notes. To encourage the attendance of the lectures we give 1 bonus point for 1 attendance, which is proved by a signed attendance-sheet. Since there are 10 occasions (5 double and 5 single lectures), you may earn 10 bonus points altogether. These are percentage points that will be added to the result of the examination.

Only those students are eligible to sign the attendance-sheet and get bonus points, who registered for the subject Medical genomics electronically.

Those students, who want to receive bonus points have to take at least a one page handwritten lecture note of the lecture
in question. The note may be checked by teachers any time.

The bonus points can be used only during the end-of-semester examination period, cannot be transferred to the next school-year.

Students, who manipulate the attendance sheets will be denied signature in this semester.

Second year students may also register for medical genomics, they can even take the examination with their valid signature in their lecture book, even if they did not pass last year. Students not having a signature in the lecture book and/or in the Neptun, have to attend classes to earn a signature.

Students, who got signature can register for an examination through the Neptun. Without registration it is not possible to take the examination. Evaluation of the exam (AW5, assessment of work): fail (1), pass (2), satisfactory (3), good (4), excellent (5). Repeated examinations are possible according to general university rules.

Lectures will be held at times and locations given for medical genetics lectures, during week 9 and 12-15.

Practical: week 9-10, in a basement computer room of the Educational Center, according to the advertised timetable. (When possible, the seminars will be held the same time as the medical genetics seminars/practicals.)

For further details see www.genetics.dote.hu, username: medical_genomics, password: neurofibromatosis. Click on "Oktatás", Downloads/Information, Medical genomics.

Department of Oral and Maxillofacial Surgery

Subject: **ORAL SURGERY ELECTIVE I. EXTRACTION PRACTICE**

Year, Semester: 4\(^{th}\) year/1\(^{st}\) semester

Number of teaching hours:

Practical: 15

<table>
<thead>
<tr>
<th>1(^{st}) week:</th>
<th>5(^{th}) week:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lecture:</strong> Tooth extraction phantom lab</td>
<td><strong>Lecture:</strong> Tooth extraction phantom lab. Complications of tooth extraction and their treatment II. Oral surgical treatment of patients receiving chemo-and radiation therapy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2(^{nd}) week:</th>
<th>6(^{th}) week:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lecture:</strong> Tooth extraction phantom lab</td>
<td><strong>Lecture:</strong> TEST Consultation</td>
</tr>
</tbody>
</table>

| 3\(^{rd}\) week: | 
| --- | --- |
| **Lecture:** TEST  |
| **Self Control Test** |  

| 4\(^{th}\) week: |  
| --- | --- |
| **Lecture:** Tooth extraction phantom lab. Complications of tooth extraction and their treatment I. | **Self Control Test** |

**Requirements**

Number of students should be at least 10!

Time and place will be announced after the registration!

Requirements for signature:

Active participation in seminars. Delay from the seminars is not allowed. Students should take part in the seminar from its beginning to the end. Any make ups are not possible. Absences should be certified in a credible way. Only absences not exceeding 20\% of the seminars are accepted.

Assessment:

5AW practical grade, calculated from the results of the 2 mid-term written tests. Students who do not write a test automatically get a fail.

If the average of the 2 written tests is less than 2, (passed) or absences exceed 20 % of the seminars, students won’t get credit points.
### Subject: SURGICAL CARE OF DEVELOPMENTAL DISORDERS OF THE MAXILLOFACIAL REGION, ORAL SURGERY ELECTIVE II.

Year, Semester: 4th year/2nd semester
Number of teaching hours:
Lecture: 15

<table>
<thead>
<tr>
<th>Week</th>
<th>Seminar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Discussion, registration</td>
</tr>
<tr>
<td>2nd week</td>
<td>Development and growth of the craniofacial region</td>
</tr>
<tr>
<td>3rd week</td>
<td>Genetics of the orofacial clefts, their classification</td>
</tr>
<tr>
<td>4th week</td>
<td>Surgical treatment of patients with cleft lip and palate</td>
</tr>
<tr>
<td>5th week</td>
<td>Complex management of patients with cleft lip and palate</td>
</tr>
<tr>
<td>6th week</td>
<td>Orthodontic care of patients with cleft lip and palate</td>
</tr>
<tr>
<td>7th week</td>
<td>Nonsyndromic craniosynostosis</td>
</tr>
<tr>
<td>8th week</td>
<td>Test</td>
</tr>
</tbody>
</table>

### Requirements

Number of students should be at least 10!
Time and place will be announced after the registration!
Requirements for signature:
Active participation in seminars. Delay from the seminars is not allowed. Students should take part in the seminar from its beginning to the end. Any make ups are not possible. Absences should be certified in a credible way. Only absences not exceeding 20% of the seminars are accepted.
Assessment:
5AW practical grade, calculated from the results of the 2 mid-term written tests. Students who do not write a test automatically get a fail.
If the average of the 2 written tests is less than 2, (passed) or absences exceed 20% of the seminars, students won’t get credit points.

### Department of Pathology

Subject: CLINICOPATHOLOGIC CASES DEMONSTRATION
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 20
REQUIRED ELECTIVE COURSES

1st week:
Lecture: Interesting clinicopathologic cases with slides and video demonstration (10 times/2hrs/t., start: 6th week)

Requirements
Interesting clinicopathologic cases with slides and video demonstration (10 times/2hrs/t.)
Start: 6th week

Subject: ORALPATHOLOGIC CASES DEMONSTRATION
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 20

1st week:
Lecture: Interesting oralpathologic cases with slides and video demonstration (10 times/2hrs/t., start: 6th week)

Requirements
Interesting oralpathologic cases with slides and video demonstration (10 times/2hrs/t.)
Start: 6th week

Department of Pediatric Dentistry and Orthodontics

Subject: PEDIATRIC DENTISTRY ELECTIVE I.
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Seminar: 15

1st week:
Lecture: Introduction to pediatric dentistry I.

2nd week:
Lecture: Introduction to pediatric dentistry I. II.

3rd week:
Lecture: Patient chart and role of dental screening.

4th week:
Lecture: Oral diagnosis and treatment planning.

5th week:
Lecture: Oral diagnosis and treatment planning II

6th week:
Lecture: Infection control

7th week:
Lecture: Accurate oral status assessment in case of primary, mixed and permanent dentitions

8th week:
Lecture: Fissure sealing

9th week:
Lecture: Fluoride modalities

10th week:
Lecture: Class I preparation in primary teeth

11th week:
Lecture: Class II cavity preparation in primary teeth, matrix placement and wedging

12th week:
Lecture: Pulpotomy in primary tooth

13th week:
Lecture: Crown build up and preparation for SS crowns

14th week:
Lecture: Apexification

15th week:
Lecture: Splinting in case traumatic injuries

Requirements
Seminars: In the building of Faculty of Dentistry, Department of Pediatric Dentistry.
CHAPTER 19

Conditions of signing the lecture book:
- Active participation on the seminars
- With acceptable written certificate students may miss 2 hours, there is no possibility to compensate the missed practices

Assessment: 5 grade (AW5) practical mark will be offered according to the average of the practical grades earned during the semester.
Prerequisites of taking the subject: Preventive dentistry II., Orthodontics I.

Subject: PEDIATRIC DENTISTRY ELECTIVE II.
Year, Semester: 5th year/2nd semester
Number of teaching hours:
Seminar: 12

1st week:
Lecture: Praxis management in pediatric dentistry. Organizing the dental screening.

2nd week:
Lecture: Anamnesis, patient charts, dental screening in pediatric dentistry (describing symptoms, diagnostics, referral).

3rd week:
Lecture: Evidence-based medicine/dentistry

4th week:
Lecture: Common dental materials and instruments used in pediatric dentistry.

5th week:
Lecture: Common mistakes in pediatric dentistry.

6th week:
Lecture: Adolescent problems in pediatric dentistry.

7th week:
Lecture: Problem Based Learning, case analysis.

8th week:
Lecture: Problem Based Learning, case analysis.

9th week:
Lecture: Problem Based Learning, case analysis.

10th week:
Lecture: Problem Based Learning, case analysis.

11th week:
Lecture: Problem Based Learning, case analysis.

12th week:
Lecture: Written test.

Requirements

Seminars: In the building of Faculty of Dentistry, Department of Pediatric Dentistry.
Conditions of signing the lecture book:
Active participation on the seminars
With acceptable written certificate students may miss 2 hours, there is no possibility to compensate the missed practices
Assessment: (AW5) five grade proposed marks (involving possibility of failure)
Five grade (AW5) practical grade evaluation:
The course ends with a written test. If it is “failed” (1) the grade must be improved during the examination period, as a “B” or “C” chance oral exam.
Prerequisites of taking the subject: Pediatric Dentistry I.

Department of Physiology

Subject: MODERN TECHNIQUES ALLOWING THE INVESTIGATION OF PHYSIOLOGICAL PHENOMENA
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 30

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REQUIRED ELECTIVE COURSES

1st week:
Lecture: The lectures are listed at the web site of the Department of Physiology (http://phys.dote.hu)

Requirements
1. Signature of Lecture Book Lecture attendance may be followed up by the Department. The lecture will not be delivered if 5 or fewer students show up. Nevertheless, the lecture material is going to be asked in the final assessment. For continuous updates on all education-related matters, please check the departmental web-site (http://phys.dote.hu)
2. Evaluation during the semester None.
3. Examination At the end of the course a written final assessment will be organised in the form of multiple choice questions. The result of this assessment will determine the verification mark of the credit course using the following conversion table:
   - 0-39.9% - Failed
   - 40-54.9 - Pass
   - 55-69.9% - Satisfactory
   - 70-84.9% - Good
   - 85-100% - Excellent

Subject: PROBLEM BASED LEARNING IN PHYSIOLOGY
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 30

1st week:
Practical: The practices are listed at the web site of the Department of Physiology (http://phys.dote.hu)

Requirements
Two students works in team on one project, and prepare one mutual report, thus they get the same score at the end of the program regardless their contribution. The Journal Club and Lab Visit programs are carried out individually. Evaluation of the students is based on the written report or the oral presentation using five grade score system (1-5). Grades are final, no make-up is allowed. The list of offered programs are available at the practical lab of the Department or on the Department’s homepage (http://phys.dote.hu/files/oktatas/kredit/PMO/PBL_topics.pdf). The deadline for the program is the end of the 11th academic week. Reports should be submitted to the tutor. Missing the deadline automatically results grade 1 (fail). Students should review carefully this guide and Problem Based Learning Reports (PBLR) must be prepared accordingly. PBLR should be submitted via E-mail in PDF format; no other format is accepted. The length of PBLR should be between 10-30 pages including all sessions listed below. Appendix or supplementary material, all together no longer than 20 pages, containing data or methodological information can be attached to the manuscript if it is necessary. Easy reading of the text should be considered as primary importance when choosing typeface and font size. Instead of pursuing artistic view, the format of the text should serve the content. Page numbering starts on front page (can be hidden); footnotes and page headings should be used sparingly. The text should be written in good English/American, but prevent using the mixtures of these. Use your text editor to eliminate possible grammatical or spelling errors. Use standard abbreviations where possible, and always give definition at first use. Using nomenclature and units follow internationally accepted rules and conventions; prefer units used in medical practice where possible and the international system of units (SI). Ensure that each table and figure is numbered and has a caption. A caption should have a brief title and short description of the illustration with a compact conclusion. Select different type face for captions.

Required elements of the PBLR: front page, table of contents, abstract, introduction, methods, results, discussion, references, further elements like preface, list of abbreviations. Acknowledgments and conclusions are optional. All sections should begin on new page, headings typographically separated from the text, centered between left and right margins.

Requirements for the sessions:
• Front page should contain the followings (template is available at the course coordinator):
  1. The full name of the department on the top of the page
  2. The full title of the manuscript
  3. A subtitle: ‘PBL Project’
  4. Name of the author(s) with class and group numbers
  5. Name of the tutor
  6. Date when project was closed
• Table of contents should be accurate and detailed referring to sub sessions if used in the manuscript.
• Abstract should be no longer than one page including headings summarizing the aim(s), chosen methods, the most important data and conclusions.
• Short summary of motivation is welcomed but not required.
References, not common abbreviations should be avoided.

Introduction cannot be longer than the half of the text.

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Methods should be detailed to the extent to allow the work to be reproduced.

Flow-charts, diagrams or photographs to demonstrate critical methodological steps or simplify long descriptions are welcomed.

Results should be clear and concise.

Raw data can be used only as representative recordings or examples if necessary, appropriate use of statistical methods is critical when presenting results.

Discussion is not recapitulation of results but exploration of the significance of the work.

All conclusions should be drawn from the presented results.

Supporting data from literature can be used but extensive citations or discussion of the literature should be avoided. Attempts to resolve contradiction between your own data or your data and the literature is greeted.

References should be numbered and listed alphabetically by the name of the first author, or the title of the website when using web reference. When using web reference the full URL should be provided. Cite references in the manuscript by numbers.

Evaluation of PBLRs are sent for evaluation to reviewers (professors of Dept. of Physiology) selected by the course coordinator. The reviewers evaluate the manuscripts on a five grade scale according to the following criteria.

- **Excellent:** well-conducted and well-presented study. All deficiencies are counterbalanced by positive qualities. Minimal stylistic errors or conflict with the format requirements. Original idea, concept or design can compensate weakness in format.

- **Good:** PBLR meets format requirements, but has some weakness either in introduction or discussion but results session is solid, or displays stylistic or typographical errors.

- **Satisfactory:** PBLR meets format requirements, but both introduction and discussion carries weakness (results must be solid). Numerous stylistic or typographical errors without influencing the readability of the text. Satisfactory is given if illustrations are not clear, graphically not well presented or hard to understand the message. Any mismatch between text and illustration results also satisfactory.

- **Pass:** PBLR meets format requirements and the concept of the study is clear. Selected method is appropriate but the manuscript has several substantial flaws in the analysis or the write-up. Inappropriate statistical method, insufficient data or numerous stylistic, typographical errors in text or graphical errors in illustrations results pass too.

- **Fail:** conflict with format requirements, major flaws in execution or presentation. A fail should also be given if the manuscript reveals a fundamental lack of understanding of the concept presented or the stylistic/grammatical/graphical errors have severe impact on the readability of the text. Missing the deadline result fail with no regard to the content or format of the manuscript.

Subject: **THE REGULATORY ROLE OF THE CELL MEMBRANE IN PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS**

Year, Semester: 2nd year/2nd semester

Number of teaching hours:

Lecture: 20

1st week:

**Lecture:** The lectures are listed at the web site of the Department of Physiology (http://phys.dote.hu)

Requirements

1. Signature of Lecture Book Lecture attendance may be followed up by the Department. The lecture will not be delivered if 5 or fewer students show up. Nevertheless, the lecture material is going to be asked in the final assessment.

2. Evaluation during the semester None.

3. Examination At the end of the course a written final assessment will be organised in the form of multiple choice questions. The result of this assessment will determine the verification mark of the credit course using the following conversion table: 0-39.9% - Failed 40-54.9 - Pass 55-69.9% - Satisfactory 70-84.9% - Good 85-100% - Excellent
Department of Restorative Dentistry

Subject: CARIOLOGY ELECTIVE I.(FUNDAMENTALS OF CARIOLOGY)
Year, Semester: 3rd year/1st semester
Number of teaching hours: Seminar: 15

1st week:
Seminar: Morphology of the teeth.

2nd week:
Seminar: Dental handinstruments. Partial buildup of molar tooth with wax. Tooth build up with play dough.

3rd week:
Seminar: Dental handinstruments. Partial buildup of molar tooth with wax. Tooth build up with play dough.
Self Control Test

4th week:

5th week:
Self Control Test

6th week:

7th week:

8th week:
Seminar: Computerised monitoring system in propedeutics.

9th week:
Seminar: Computerised monitoring system in propedeutics.

10th week:
Seminar: Computerised monitoring system in propedeutics.

11th week:
Seminar: Computerised monitoring system in propedeutics.

12th week:
Seminar: Examination of the patients. Registration of the dental status.

13th week:
Seminar: Examination of the patients. Registration of the dental status.

14th week:
Seminar: Examination of the patients. Registration of the dental status.

15th week:
Seminar: Self-control test

Requirements

Seminar: 15
The module is taught provided at least 5 students sign up for it.
For information about the module contact: Dr. Martos Renata

Requirements for signing the lecture book:
- To attend seminars on a regular basis (there is no place for making up for missed classes.)
- Absences are required to be officially certified which cannot be more than 2 seminars.
- To take the final test of the seminar. The student who does not take this grade offering test his/her lecture book will be refused to be signed.

Examination: Assessment of work on the 5 grade scale

The method of formation of the assessment of work grade:
Based on the result of the final test we follow the below conversion to define the grade:

<table>
<thead>
<tr>
<th>Achieved result in %</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-39.9 %</td>
<td>fail (1)</td>
</tr>
<tr>
<td>40-54.9 %</td>
<td>pass (2)</td>
</tr>
<tr>
<td>55-69.9 %</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>70-84.9 %</td>
<td>good (4)</td>
</tr>
<tr>
<td>85-100 %</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Retake of the final test is not allowed. If the final test is below 40%(pass), then the mid semester grade is a fail. This can be amended with B and C exam chances in the exam period.
CHAPTER 19

Subject: CARIOLOGY ELECTIVE II (DIET AND NUTRITION IN ORAL HEALTH)
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Seminar: 15

1st week:
Seminar: Nutrition as the foundation of general and oral health.

2nd week:
Seminar: Adequate diet. Energy balance and weight control

3rd week:
Seminar: Nutritions and dietary supplements. I.

4th week:
Seminar: Nutritions and dietary supplements. II.

5th week:
Seminar: Nutrition implication in chronic health conditions.

6th week:
Seminar: Nutrition in the growth and development of oral structures.

7th week:
Seminar: Diet, nutrition and teeth.

8th week:
Seminar: Nutrition and the periodontium.

9th week:
Seminar: Immune compromising conditions and oral lesions.

10th week:

11th week:
Seminar: Nutrition concerns for the dentally compromised patient: dentures, dysphagia, tempomandibular disorders.

12th week:
Seminar: Nutrition in pregnancy, infancy, childhood and adulthood.

13th week:
Seminar: The older patient.

14th week:

15th week:
Seminar: How medications and herbal remedies can affect nutrition, diet and oral health.

Requirements

No of Seminars: 15
For information about the module contact: Dr. Kelentey Barna
The module is taught provided at least 5 students sign up for it.

Requirements for signing the lecture book:
- To attend seminars on a regular basis (there is no place for making up for missed classes)
- Absences are required to be officially certified which cannot be more than 2 seminars.
- To take the final test of the seminar. The student who does not take this grade offering test his/her lecturebook will be refused to be signed.

Examination: Assessment of work on the 5 grade scale

The method of formation of the assessment of work grade:

Based on the result of the final test we follow the below conversion to define the grade:

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</tr>
<tr>
<td>85-100 %</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Retake of the final test is not allowed. If the final test is below 40%(pass), then the mid semester grade is a fail. This can be amended with B and C exam chances in the exam period.

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Subject: CARIOLOGY ELECTIVE III. (ESTHETICS IN RESTORATIVE DENTISTRY)
Year, Semester: 5th year/2nd semester
Number of teaching hours:
Seminar: 12

1st week:

2nd week:

3rd week:

4th week:

5th week:

6th week:

7th week:

8th week:
Seminar: Upper first incisor build up with Vanini’s layering technique.

9th week:
Seminar: Upper first incisor build up with Vanini’s layering technique.

10th week:
Seminar: Upper first incisor build up with Vanini’s layering technique.
CHAPTER 19

layering technique.

11th week:
Seminar: Upper first incisor build up with Vanini’s layering technique.

12th week:
Seminar: Written exam.

Requirements

No. of Seminars: 12

The module is taught provided at least 5, maximum 30 students sign up for it.
For information about the module contact: Dr. Renáta Martos

Requirements for signing the lecture book:
- To attend seminars on a regular basis (there is no place for making up for missed classes.)
- Absences are required to be officially certified which cannot be more than 2 seminars.
- Tooth build-up with composite
- To take the final test of the seminar.
- The student who does not take this grade offering test his/her lecture book will be refused to be signed.

Examination: Assessment of work on the 5 grade scale

After this course, the student with an excellent build up result may have a chance to take part in an esthetic restorative dentistry competition.

The method of formation of the assessment of work grade:

Based on the result of the final test we follow the below conversion to define the grade:

<table>
<thead>
<tr>
<th>Achieved result in %</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-39.9 %</td>
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<td>pass (2)</td>
</tr>
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<td>satisfactory (3)</td>
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<tr>
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<td>good (4)</td>
</tr>
<tr>
<td>85-100 %</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Retake of the final test is not allowed. If the final test is below 40% (pass) then the mid semester grade is a fail. This can be amended with B and C exam chances in the exam period.

Requirements for taking up the subject: Restorative Dentistry III. (Cariology and Endodontics)
Subject: ENDODONTICS ELECTIVE I.
Year, Semester: 4th year/1st semester
Number of teaching hours:
Seminar: 15

1st week:
Seminar: Endodontic guidelines I.

6th week:
Seminar: Avulsion II.

2nd week:
Seminar: Endodontic guidelines II.

7th week:
Seminar: Endodontic adjuncts I.

3rd week:
Seminar: One-visit endodontics I.

8th week:
Seminar: Endodontic adjuncts II.

4th week:
Seminar: One-visit endodontics II.

9th week:
Seminar: Endodontic adjuncts III.

5th week:
Seminar: Avulsion I.

10th week:
Seminar: Endodontic adjuncts IV.

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11th week:
**Seminar:** Endodontic case presentation I.

12th week:
**Seminar:** Endodontic case presentation II.

13th week:
**Seminar:** Endodontic monoblocks I.

14th week:
**Seminar:** Endodontic monoblocks II.

15th week:
**Seminar:** Test

### Requirements

Seminar: 15
The module is taught provided at least 5 students sign up for it.
For information about the module contact: Dr. Juhász Alexander

Requirements for signing the lecture book:
- To attend seminars on a regular basis (there is no place for making up for missed classes.)
- Absences are required to be officially certified which cannot be more than 2 seminars.
- To take the final test of the seminar. The student who does not take this grade offering test his/her lecture book will be refused to be signed.

Examination: Assessment of work on the 5 grade scale

The method of formation of the assessment of work grade:

Based on the result of the final test we follow the below conversion to define the grade:

<table>
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<td>good (4)</td>
</tr>
<tr>
<td>85-100%</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Retake of the final test is not allowed. If the final test is below 40%(pass), then the mid semester grade is a fail. This can be amended with B and C exam chances in the exam period.

### Subject: ENDODONTICS ELECTIVE II. (MICROSCOPE IN DENTAL PRACTICE)

Year, Semester: 5th year/1st semester
Number of teaching hours:
Seminar: 15

1st week:
**Seminar:** Microscopy from the beginning (history, magnification, illumination, types). The dental microscopes. I.

2nd week:
**Seminar:** Microscopy from the beginning (history, magnification, illumination, types). The dental microscopes. II.

3rd week:
**Seminar:** Ergonomics in dentistry. I.

4th week:
**Seminar:** Ergonomics in dentistry. II.

5th week:
**Seminar:** Musculosceletal Disorders (MSDs) in dentistry. I.

6th week:
**Seminar:** Musculosceletal Disorders (MSDs) in dentistry. II.

7th week:
**Seminar:** Four handed treatment. I.

8th week:
**Seminar:** Four handed treatment. II.

9th week:
**Seminar:** Dental microscope in endodontic and restorative dentistry. I.
CHAPTER 19

10th week:
Seminar: Dental microscope in endodontic and restorative dentistry. II.

11th week:
Seminar: Dental microscope in the other fields of dentistry. I.

12th week:
Seminar: Dental microscope in the other fields of dentistry. II.

13th week:
Seminar: Digital photodocumentation and the dental operating microscope. I.

14th week:
Seminar: Digital photodocumentation and the dental operating microscope. II.

15th week:
Seminar: Writing test.

Requirements

Seminar: 15
The module is taught provided at least 5 students sign up for it.
For information about the module contact: Dr. Bágyi Kinga

Requirements for signing the lecture book:
- To attend seminars on a regular basis (there is no place for making up for missed classes.)
- Absences are required to be officially certified which cannot be more than 2 seminars.
- To take the final test of the seminar. The student who does not take this grade offering test his/her lecture book will be refused to be signed.

Examination: Assessment of work on the 5 grade scale

The method of formation of the assessment of work grade:

Based on the result of the final test we follow the below conversion to define the grade:

<table>
<thead>
<tr>
<th>Achieved result in %</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-39.9%</td>
<td>fail (1)</td>
</tr>
<tr>
<td>40-54.9%</td>
<td>pass (2)</td>
</tr>
<tr>
<td>55-69.9%</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>70-84.9%</td>
<td>good (4)</td>
</tr>
<tr>
<td>85-100 %</td>
<td>excellent (5)</td>
</tr>
</tbody>
</table>

Retake of the final test is not allowed. If the final test is below 40% (pass) then the mid semester grade is a fail. This can be amended with B and C exam chances in the exam period.

Reading materials:

Division of Clinical Physiology

Subject: CLINICAL PHYSIOLOGY
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 17
Seminar: 18

1st week:
Lecture: Introduction, cellular and molecular factors of pathologic cardiac excitability.
Seminar: The basics of ECG.

2nd week:
Lecture: Pathologic contractile function of the heart(contractile proteins, intracellular Ca2+-homeostasis
and cardiac pumping).
**Seminar:** ECG diagnosis of arrhythmias I.

**3rd week:**
**Lecture:** Myocardial ischemia, myocardial infarction and new ischemic syndromes (hibernation, preconditioning, stunning).
**Seminar:** ECG diagnosis of arrhythmias II.

**4th week:**
**Lecture:** Cardiac hypertrophy and failure.
**Seminar:** Differential diagnostics or arrhythmias, evaluation of ECG recordings.

**5th week:**
**Lecture:** Heart failure (molecular pathophysiology).
**Seminar:** Conduction disorders, ECG sings of volume and pressure overload.

**6th week:**
**Lecture:** Endothelium, smooth muscle, vessels.
**Seminar:** Angina pectoris, myocardial infarction.

**7th week:**
**Lecture:** Hypertension.
**Seminar:** Exercise stress test ECG, Holter ECG.

**8th week:**
**Lecture:** Cellular and molecular background of cardiovascular drugs.
**Seminar:** Electronic pacemakers, mechanisms of arrhythmias.

**9th week:**
**Lecture:** Stem cells in cardiovascular medicine.
**Seminar:** ECG signs of electrolyte disorders, differential diagnostics, practicing.

**Self Control Test (Self control test (Bonus points for the exam can be collected during the written mid-semester clinical physiology test during the 9th week.))

**10th week:**
**Lecture:** Cellular and molecular elements of the respiratory system with clinical significance.
**Seminar:** Evaluation of ECG recordings.

**11th week:**
**Lecture:** Clinical physiology of the respiratory system.

**12th week:**
**Lecture:** Clinical physiology of nutrition and metabolism I.

**13th week:**
**Lecture:** Clinical physiology of nutrition and metabolism II.

**14th week:**
**Lecture:** Clinical physiology of the nervous system I.

**15th week:**
**Lecture:** Clinical physiology of the nervous system II.

**Self Control Test (Result of the 9th and 15th weeks tests will form the basis for a recommended final mark)**

**Requirements**

Students are expected to attend lectures and obliged to attend seminars. The Department may refuse to sign the students' Lecture Book if a student is absent from more than two seminars. The successful oral mid-semester ECG test (during the 10th week of the second semester) is also a requirement for the signature of the students' Lecture Book. Third year students are invited to participate in two written mid-semester tests ("Assessment of the work" (AW)) during the 9th and 15th weeks of the second semester organized by the Division of Clinical Physiology. Results of these tests will form the basis for a recommended final mark. Single choice test questions (a single correct or a single false answer should be chosen out of five possibilities) will address students' proficiency from the material of all lectures and seminars. If a final grade cannot be offered, written exams will be performed during the examination period. Failed exams are repeated in the written test (B chance) and in an oral test (C chance). Students may also improve their mark in an oral exam. Lecture Books are signed by the head of the Division of Clinical Physiology.

**Division of Radiotherapy**

**Subject:** RADIOTHERAPY IN THE CLINICAL PRACTICE

**Year, Semester:** 4th year/1st semester

**Number of teaching hours:**

**Lecture:** 14

**1st week:**
**Seminar:** Indication, contraindication of radiotherapy neoadjuvant, adjuvant, palliative treatment

**2nd week:**
**Seminar:** Equipment in radiotherapy

**3rd week:**
**Seminar:** Teletherapy
CHAPTER 19

4th week:
Seminar: Special teletherapy techniques

5th week:
Seminar: Brachytherapy

6th week:
Seminar: Isotope therapy, eye plaque brachytherapy

7th week:
Seminar: The role of localization of tumor spreading, lymphnode regions and risk organs

Requirements

The goal is to get to know the process and clinical considerations of radiotherapy (indications, contraindications, equipments).

Faculty of Dentistry

Subject: DIGITAL DENTISTRY
Year, Semester: 5th year/1st semester
Number of teaching hours:
Seminar: 15

1st week:
Seminar: Basics of digital database processing

2nd week:
Seminar: Basic science of CAD CAM technology

3rd week:
Seminar: 3D Reconstructions from Few Projections in Oral Radiology

4th week:
Seminar: Denoising and Contrast Enhancement in Dental Radiography

5th week:
Seminar: An Objective Registration Method for Mandible Alignment

6th week:
Seminar: A New Software Environment for 3D-Time Series Analysis

7th week:
Seminar: Visualization and Modelling in Dental Implantology

8th week:
Seminar: Requirements for a Universal Image Analysis

9th week:
Seminar: Digital Library for Dental Biomaterials

10th week:
Seminar: Rapid Prototyping and Dental Applications

11th week:
Seminar: Intraoral impression systems, and scanner systems in dentistry

12th week:
Seminar: CAD CAM in prosthetic dentistry

13th week:
Seminar: Software Support for Advanced Cephalometric Analysis in Orthodontics

14th week:

15th week:
Seminar: Consultation
Kenézy Life Sciences Library, University of Debrecen

Subject: **LIBRARY SYSTEM**  
Year, Semester: 1\(^{st}\) year/1\(^{st}\) semester  
Number of teaching hours:  
Practical: **10**

1\(^{st}\) week:  
**Practical**: Introduction to the Library and library use:  
- Traditional services (registration, rules of library usage, loans, reading room, computer lab).  
- Electronic services (the Library's home page, online catalogs, anatomy databases and links).

2\(^{nd}\) week:  
**Practical**: Electronic Information Resources:  
- Electronic journals (EBSCO A-to-Z, Science Direct).  
- EBSCOhost Research Data-bases.  
- Link collections.

3\(^{rd}\) week:  
**Practical**: Databases:  
- Medline.  
- Impact Factors.

4\(^{th}\) week:  
**Practical**: Evidence Based Medicine. Synopsis of information retrieval

5\(^{th}\) week:  
**Practical**: Test

Requirements

Class attendance!
# CHAPTER 20
## TITLES OF THESES

### Department of Anatomy, Histology and Embryology

1. Title: Inhibition mediated by GABAA and GABAB receptors in the superficial spinal dorsal horn in health and disease  
   Tutor: Miklós Antal M.D., Ph.D., D.Sc.

2. Title: Molecular organization of the endogenous cannabinoid signaling apparatus in the superficial spinal dorsal horn in health and disease  
   Tutor: Miklós Antal M.D., Ph.D., D.Sc.

3. Title: Role of the extracellular matrix in the plasticity of the vestibular system  
   Tutor: Klára Matesz M.D., Ph.D., D.Sc.

4. Title: Termination of the vestibulospinal tract in the rat  
   Tutor: Ervin Wolf M.Sc., Ph.D.

5. Title: Dendritic impulse propagation in mice showing symptoms of Alzheimer's disease – computer modelling  
   Tutor: Ervin Wolf M.Sc., Ph.D.

6. Title: Basic mechanisms of visual contour integration in the primary visual cortex using voltage sensitive dye imaging  

7. Title: Dendritic integration of inhibitory and excitatory cortico-cortical inputs in the primary visual cortex  
   Tutor: Zsófia Antal M.D.

### Department of Anesthesiology and Intensive Care

1. Title: Experimental testing of the neuromuscular junction  
   Tutor: Ákos Fábián M.D., Ph.D.

2. Title: Preemptive and preventive analgesia  
   Tutor: Béla Fülesdi M.D., Ph.D., D.Sc.

3. Title: Ultrasound use in anesthesia and critical care  
   Tutor: Csilla Molnár M.D., Ph.D.

4. Title: Tako-tsubo cardiomyopathy in neurocritical care conditions  
   Tutor: Adrienn Pongrácz M.D.

### Department of Biomaterials and Prosthetic Dentistry

1. Title: Silver in Dentistry  
   Tutor: István Lampé D.M.D.

2. Title: Functionalization possibilities of Ti-implants  
   Tutor: József Bakó M.Sc.

3. Title: Nanoparticles in drug delivery systems  
   Tutor: Melinda Szalóki M.Sc., Ph.D.

4. Title: New ways for tissue engineering in dentistry  
   Tutor: Melinda Szalóki M.Sc., Ph.D.

5. Title: Usage of implants in oral rehabilitation  
   Tutor: József Bakó M.Sc.

6. Title: Application of phage display technique to dental biomolecular interactions  
   Tutor: József Bakó M.Sc.

7. Title: Application of SPR technique to peptide and dental allergen bindings  
   Tutor: Melinda Szalóki M.Sc., Ph.D.

8. Title: Effect of gold nanoparticles on resin matrix of dental filling materials  
   Tutor: Melinda Szalóki M.Sc., Ph.D.

### Department of Behavioural Sciences, Faculty of Public Health

1. Title: Medicalization and its social context  
   Tutor: Krisztina Hollo MSc, PhD

2. Title: Sandor Ferenczi: Clinical Diary and the philosophy of doctor-patient relationship  
   Tutor: Krisztina Hollo M.Sc., Ph.D.

3. Title: The changing attitudes towards human phenomena in Western medicine  
   Tutor: Attila Báncfalvi M.A., Ph.D., C.Sc.

4. Title: The importance of the point of view of psychoanalysis for a humanistic medicine  
   Tutor: Attila Báncfalvi M.A., Ph.D., C.Sc.

5. Title: Biological roots of behaviour: the horizon of evolutionary psychology  
   Tutor: Attila Báncfalvi M.A., Ph.D., C.Sc.
7. Title: Differential analyses of patient education media and communicational strategies in sociocultural groups and disease groups. (Interdisciplinary research)
8. Title: Emotions and their relation to health.
9. Title: How does the body shape the mind? An interdisciplinary approach to the concept of embodiment
12. Title: Theory and praxis of junior Bálint groups.
   Tutor: Péter Molnár M.D., D.Sc.
13. Title: Ethical and legal issues of genetic research
14. Title: Ethical issues of research in the medical and health sciences
15. Title: Professional ethics and the system of gratitude money in Hungary
16. Title: The ethics of end-of-life decisions
   Tutor: Péter Kakuk M.A., Ph.D.
17. Title: Evolutionary Psychopathology
18. Title: Humor and Mental Health
19. Title: Life History Strategy elements in mate choice, attachment, and mental health
   Tutor: Roland Tisljár M.A., Ph.D.

Department of Biochemistry and Molecular Biology
1. Title: Apoptosis of differentiating adipocytes
2. Title: Development of effective recombinant tissue transglutaminase production systems. Development of assays to test transglutaminase activity. Studying superGTPase tissue transglutaminases.
   Tutor: László Fésüs M.D., Ph.D., D.Sc., M.H.A.Sc.
3. Title: Genetic modification of mesenchymal stem cells and differentiation into macrophages.
4. Title: Investigation of the phagocytosis of apoptotic cells
5. Title: The anti-inflammatory role of adenosine A2A receptor.
6. Title: The anti-inflammatory role of membrane-bound TNFalpha
7. Title: The potential role of LXR receptor in the dexamethasone-induced phagocytosis of apoptotic cells.
8. Title: The role of adenosine A3 receptor in mediating anti-inflammatory action of apoptotic cells.
9. Title: The role of transglutaminase 2 in calcium homeostasis.
   Tutor: Zsuzsa Szondy M.D., Ph.D., D.Sc.
10. Title: The role of retroviral proteases in the retroviral life cycle.
    Tutor: József Tőzsér M.Sc., Ph.D., D.Sc.
11. Title: The role of tissue transglutaminase in rolling and adhesion of neutrophil granulocytes
    Tutor: Zoltán Balajthy M.Sc., Ph.D.

Department of Cardiology
1. Title: Ablation of atrial fibrillation
   Tutor: Zoltán Csanádi M.D., Ph.D.
2. Title: 3-dimensional reconstruction of coronary angiography
   Tutor: Zsolt Köszegi M.D., Ph.D.
CHAPTER 20

3. Title: Echocardiographic aspects of left atrial appendage closure
   Tutor: Attila Kertész M.D., Ph.D.

5. Title: Device-therapy of heart failure
   Tutor: Orsolya Bene M.D.

**Division of Cardiac Surgery**
1. Title: Evaluation of the antibacterial effect of different skin preparation techniques in cardiac surgery
   Tutor: Tamás Szerafin M.D., Ph.D.

3. Title: Short-term results of operations accomplished in A-type aortic dissections
   Tutor: Tamás Maros M.D.

4. Title: Mitral valve repair-review of the literature
   Tutor: István Szentkirályi M.D.

5. Title: Mid-term results of aortic valve sparing operations
   Tutor: Ambrus Horváth M.D.

6. Title: Comparison of the effects of different anticoagulation therapies after aortic bioprosthesis implantation.
   Tutor: Lehel Palotás M.D.

**Department of Biophysics and Cell Biology**
1. Title: Investigation of cell surface distribution of erbB-2 oncoprotein in breast tumor cell lines.
   Tutor: János Szöllösi M.Sc., Ph.D., D.Sc.

3. Title: Studying the inactivation of voltage gated potassium ion channels in heterologous expression systems.
   Tutor: György Panyi M.D., Ph.D., D.Sc.

4. Title: Epigenetic regulation of nucleosome-DNA cohesion
   Tutor: Gábor Szabó M.D., Ph.D., D.Sc.

6. Title: Mathematical analysis and computer modelling of the topology of cell surface proteins.
   Tutor: László Mátyus M.D., Ph.D., D.Sc.

8. Title: Examination of the channel function properties of the P170 multidrug pump by patch-clamp.
   Tutor: Zoltán Krasznai M.Sc., Ph.D.

9. Title: Cytometry of cytotoxic lymphocytes
   Tutor: Zsolt Bacsó M.D., Ph.D.

11. Title: Elucidation of the catalytic mechanism of ABC transporters
    Tutor: Katalin Goda M.Sc., Ph.D.

12. Title: 3-dimensional reconstruction of chromosome conformations based on whole-genome contact probability data

13. Title: Histone point mutations affecting epigenetic modifications: impact on chromosome architecture
    Tutor: Lóránt Székvölgyi M.Sc., Ph.D.

14. Title: Biophysical analysis and functional significance of cell surface protein patterns in T cell-mediated immune responses
    Tutor: Andrea Dóczy-Bodnár M.Sc., Ph.D.

15. Title: Studying nuclear receptor function by modern microscopy techniques
    Tutor: György Vámossi M.Sc., Ph.D.

16. Title: Quantitative investigation of the associations of ErbB proteins using biophysical and molecular biological methods

17. Title: The correlation between the metastatic potential and chemoresistance of breast tumors with the expression level and association state of ErbB proteins
    Tutor: Péter Nagy M.D., Ph.D.

18. Title: Molecular mechanisms of anticancer immune therapy.

19. Title: Role of molecular interactions between receptor tyrosine kinases and integrins in the therapy resistance of tumors.
    Tutor: György Vereb M.D., Ph.D., D.Sc.

20. Title: Comparative study on Kv1.3 channels conjugated with fluorescent proteins
    Tutor: Péter Hajdu M.Sc., Ph.D.

**Division of Cardiology**
1. Title: Ablation in atrial fibrillation
   Tutor: Zoltán Csanádi M.D., Ph.D.

2. Title: Novel treatment modalities in atrial fibrillation (catheter ablation, surgery and pacemakers)
   Tutor: Zsolt Köszegi M.D., Ph.D.

3. Title: 3-D reconstruction of coronarography
   Tutor: Zsolt Köszegi M.D., Ph.D.

4. Title: Cardiovascular aspects of diabetes mellitus
   Tutor: Tibor Fülöp M.D., Ph.D.

5. Title: Left ventricular function of obese patients.
   Tutor: Tibor Szűk M.D., Ph.D.

6. Title: Antithrombotic therapy in patients with ischaemic heart disease.
   Tutor: Tibor Szűk M.D., Ph.D.
7. Title: Supraventricular arrhythmias. 
   Tutor: Csaba Kun M.D.

8. Title: The role of echocardiography in staving off complication of myocardial infarction. 
   Tutor: Ildikó Farkas-Rácz M.Sc.

9. Title: Stem cell therapy after myocardial infarction. 
   Tutor: László Balogh M.D.

10. Title: Aspirin - resistency 
    Tutor: Nóra Homoródi M.D.

11. Title: Cardiovascular complications of dermatomyositis. 
    Tutor: Andrea Péter M.D.

12. Title: Electrical treatment modalities in heart failure 
    Tutor: Orsolya Bene M.D.

13. Title: Secondary prevention after primary PCI. 
    Tutor: László Fülöp M.D., Ph.D.

Division of Clinical Physiology
1. Title: Improvement of myocardial inotropy under physiological and pathological conditions 
   Tutor: Zoltán Papp M.D.

2. Title: The role of posttranslational modifications in the contractile regulation of the heart. 

3. Title: The role of vanilloid receptors in cardiovascular regulatory mechanisms 

Department of Human Genetics
1. Title: Characterization of factor-C protein family using sequence databases. 
   Tutor: Zsigmond Fehér M.D., Ph.D.

2. Title: Expression of WT1 and its splice variants in different diseases studied by real time PCR. 

3. Title: Study of a gene regulating differentiation in bacteria. 

4. Title: Study of the WT1 gene in urogenital malformations. 

5. Title: Human disease models in animals and lower eukaryotes (review). 
   Tutor: Zsigmond Fehér M.D., Ph.D.

6. Title: Ca++-binding proteins in Streptomyces 

7. Title: Isolation of mono-ADP-ribosylated proteins from pro- and eukaryotic cells. 
   Tutor: András Penyige M.Sc., Ph.D.

8. Title: Chromosome-tracking studies in complex diseases. 
   Tutor: György Vargha M.D., Ph.D.

   Tutor: Judit Keserű M.Sc., Ph.D.

10. Title: Functional analysis of the Streptomyces facC gene in Aspergillus 
    Tutor: Melinda Paholcsek M.Sc.

11. Title: Global analysis of the human blood plasma epitome and interactome in health and disease. 

12. Title: Use of comparative monoclonal antibody proteomics to detect three dimensional conservation relevant to protein function. 
    Tutor: László Takács M.D., Ph.D., D.Sc., M.H.A.Sc.

13. Title: Copy number variation of WT-1 gene in hematological conditions 
    Tutor: Dániel Érnő Beyer M.Sc., Ph.D.

14. Title: Factor-A mediated regulation of differentiation in Streptomyces griseus 
    Tutor: Melinda Szilágyi-Bónizs M.Sc., Ph.D.

Department of Immunology
1. Title: Phenotypic and functional properties of dendritic cells 

2. Title: Functional properties of proteins of SLAM receptor family in dendritic cells 

3. Title: Identification and functional analysis of adaptor proteins in dendritic cells 
   Tutor: Árpád Lányi M.Sc., Ph.D.

4. Title: Investigation of effects of adjuvant factors released by allergenic materials on epithelial cells 

5. Title: Role of reactive oxygen species generated by pollen grains in the pathomechanisms of allergic reactions 
   Tutor: Attila Bácsi M.Sc., Ph.D.

6. Title: Cellular interactions between dendritic cells and CD1 specific T-lymphocytes 
   Tutor: Péter Gogolák M.Sc., Ph.D.

7. Title: Study of non-apoptotic cytotoxic processes during immune response, new way of killing apoptosis resistant tumor cells 
   Tutor: Gábor Koncz M.Sc., Ph.D.

Division of Clinical Oncology
1. Title: New therapeutic targets in breast cancer treatment 

2. Title: Prognostic and predictive factors of breast cancer 
   Tutor: Zsolt Horváth M.D., Ph.D.

3. Title: Endocrine therapy of breast cancer 
   Tutor: Judit Kocsis M.D., Ph.D.

Department of Laboratory Medicine
1. Title: Investigation of thrombosis and inflammation in
CHAPTER 20

PSGL-1 deficiency.
2. Title: The effect of thrombotic and inflammatory stimuli on platelet activation
   Tutor: János Kappelmayer M.D., Ph.D., D.Sc.

3. Title: Functional analysis of antimicrobial fusion proteins
4. Title: Molecular genetic diagnostics of hematological and other malignant diseases
   Tutor: Péter Antal-Szalmás M.D., Ph.D.

5. Title: Molecular genetic diagnosis of cystic fibrosis
6. Title: Molecular genetic diagnosis of severe inherited disease
   Tutor: István Balogh M.Sc., Ph.D.

7. Title: Analysis of stem cell mobility during peripheral stem cell transplantation
8. Title: Application of FXIII-A in the detection of minimal residual disease in acute lymphoblastic leukemia
   Tutor: Zsuzsa Hevessy M.D., Ph.D.

9. Title: Laboratory diagnostic of osteoporosis
   Tutor: Harjit Pal Bhattoo M.D., Ph.D.

10. Title: Applications of calculated GFR
    Tutor: Anna Oláh M.Sc., Ph.D.

11. Title: The significance of the laboratory investigation of HE4 in cystic fibrosis
    Tutor: Béla Nagy Jr. M.D., Ph.D.

Division of Radiotherapy
1. Title: Dealing with irradiation induced side effects
2. Title: Neoadjuvant radio-chemotherapy of rectal cancer
3. Title: Palliative and supportive care in radiooncology
4. Title: Radiotherapy of breast cancer
   Tutor: Andrea Furka M.D., Ph.D.

Division of Clinical Laboratory Science
1. Title: Correlation of FXIII levels and FXIII-B subunits polymorphisms with the risk of deep vein thrombosis
2. Title: New chromogenic assay to detect APC resistance
   Tutor: László Muszbek M.D., Ph.D., D.Sc., M.H.A.Sc.

3. Title: Effect of alfa2-plasmin inhibitor polymorphisms on the risk of thrombosis
4. Title: Effect of FXIII on smooth muscle cell functions
5. Title: Investigation of alfa2-plasmin inhibitor and fibrinogen interaction
6. Title: Method development for the detection of various alpha2 plasmin inhibitor isoforms
   Tutor: Éva Katona M.D., Ph.D.

7. Title: Inherited hemostasis disorders; laboratory and molecular genetic aspects
8. Title: Laboratory monitoring of the new generation oral anticoagulants

9. Title: New diagnostic methods in Protein S deficiency.
   Tutor: Zsuzsanna Bereczky M.D., Ph.D.

10. Title: Characterization oh the heparin-antithrombin interaction with surface plasmon resonance
11. Title: Coagulation factor and inhibitor levels in end-stage renal disease
12. Title: The interactions of blood coagulation factor XIII B subunit with different proteins
    Tutor: Krisztina Pénzes-Daku M.Sc., Ph.D.

13. Title: Hybrid quantum mechanics - molecular mechanics (QM/MM) calculations on biological systems
    Tutor: István Komáromi M.Sc., Ph.D.

14. Title: Fibrinolytic marker levels and polymorphisms in ischemic stroke patients
15. Title: Local hemostasis alterations in the left atrium of patients with atrial fibrillation
   Tutor: Zsuzsa Bagoly M.D., Ph.D.

Department of Dermatology
1. Title: Ablative laser treatment in Hailey-Hailey disease
2. Title: Genetic susceptibility in psoriasis
3. Title: Laser therapy of vascular skin lesions
4. Title: Lipid metabolism in psoriasis
   Tutor: Éva Remenyik M.D., Ph.D., D.Sc.

5. Title: Importance of sentinel node dissection in the complex therapy of melanoma
6. Title: Modern moist wound dressings with simultaneous effective antibacterial properties in the treatment of difficult to heal wounds
7. Title: Possibilities of biotechnological skin substitution in the treatment of burns
8. Title: Possibilities of cell therapy in the treatment of burns
9. Title: Possibilities of scar correction
   Tutor: István Juhasz M.D., Ph.D., C.Sc.

10. Title: Pathogenesis and treatment of diabetic-foot
    Tutor: Éva Szabó M.D., Ph.D.

11. Title: Significance of compression therapy in treating venous leg ulcer
    Tutor: Zoltán Péter M.D.

12. Title: Biological therapy in psoriasis - mechanism of action and reasons for secunder loss of response
13. Title: New approaches in the classification and therapy of chronic urticaria
    Tutor: Krisztián Gáspár M.D., Ph.D.

14. Title: New therapies in severe psoriasis vulgaris
15. Title: Opalizumab therapy in chronic urticaria
    Tutor: Andrea Szegedi M.D., Ph.D., D.Sc.

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TITLES OF THESES

**Department of Medical Chemistry**

1. Title: Investigation of Ser/Thr protein phosphatase on pathogenic fungi  

2. Title: Interaction of protein phosphatase 1 catalytic subunit with regulatory proteins  

3. Title: Mechanism of oxidative stress-induced cell death  
4. Title: Regulation of macrophage functions  
   Tutor: László Virág M.D., Ph.D., D.Sc.

5. Title: Scaffolding proteins in the endothelium  
   Tutor: Csilla Csortos M.Sc., Ph.D.

6. Title: Structural and functional investigation of a fungus specific protein phosphatase  
   Tutor: Ilona Farkas M.Sc., Ph.D.

7. Title: Study of metabolic processes with special regard to the involvement of mitochondrial activity.  
   Tutor: Péter Bay M.Sc., Ph.D.

8. Title: Identification of adenosine receptor 2A interacting proteins in macrophages  
   Tutor: Endre Kókai M.Sc., Ph.D.

9. Title: Study of the role of protein phosphatase in wound healing  
   Tutor: Beáta Lontay M.Sc., Ph.D.

10. Title: Interaction of protein phosphatases with inhibitory molecules  
    Tutor: Andrea Kiss M.Sc., Ph.D.

11. Title: High-Throughput Screening  
    Tutor: Csaba Hegedűs M.Sc., Ph.D.

**Department of Infectious Diseases and Pediatric Immunology**

1. Title: Antimicrobial host defense mechanisms in mature newborns  
   Tutor: József Kónya M.D., Ph.D.

2. Title: Conjugated vaccines in the pediatric practice  
3. Title: DNA vaccines  
4. Title: Nosocomial infections in pediatric care units  
5. Title: Passive immunization with immunoglobulins  
   Tutor: László Maródi M.D., Ph.D., D.Sc.

6. Title: Complicated varicella infections  
7. Title: EBV infection in children  
8. Title: Enzyme replacement therapy in Gaucher disease  
9. Title: Etiopathology of infections in hyper-IgM syndrome  
10. Title: Expression and function of mutated proteins in Shwachman-Diamond syndrome  
11. Title: Intravenous immunoglobulin therapy in autoimmune disorders  
12. Title: Invasive pneumococcal infections in primary immunodeficiency disorders  
13. Title: Lyme-disease  
14. Title: Pneumococcal polysaccharide vaccines  
15. Title: Principle and practice of antimicrobial therapy  
16. Title: Selective antipolyasaccharide antibody deficiency  
17. Title: The clinics, pathomechanism and molecular genetics of Shwachman-Diamond syndrome  
18. Title: WHIM syndrome  
   Tutor: Melinda Erdős M.D., Ph.D.

19. Title: AIDS in pediatric population  
   Tutor: Mohamed Mahdi M.D.

20. Title: C.difficile infection in infectious pediatric cave units  
21. Title: Antifungal chemotherapy  
22. Title: Molecular genetic analysis of APECED syndrome  
23. Title: Mucocutan candida infections  
24. Title: Principle and practice in the treatment of the lower respiratory tract infections  
   Tutor: Adrien Katalin Sarkadi M.D., Ph.D.

25. Title: Clinical manifestations and molecular pathology of hyper-IgE syndrome  
   Tutor: Ágnes Mata-Harsfalvi M.D.

26. Title: Differential diagnosis of neutropenia  
27. Title: Enzyme replacement therapy in Fabry disease  
   Tutor: Éva Anna Kenéz M.D.

**Department of Medical Microbiology**

1. Title: Antimicrobial cell-mediated immunity measured by mRNA tests  
   Tutor: József Kónya M.D., Ph.D.

2. Title: Evaluation of in vitro efficacy of different new antibiotics against multiresistant bacteria  
   Tutor: Judit Szabó M.D., Ph.D.

3. Title: Role of HPV in head and neck cancers  
   Tutor: Krisztina Szarka M.Sc., Ph.D.

4. Title: Evaluation of fungicidal effect of antifungal agents using time-kill curves  
   Tutor: László Majoros M.D., Ph.D.

5. Title: New and older agents in antifungal chemotherapy  
   Tutor: László Majoros M.D., Ph.D.

6. Title: Effects of human papillomavirus oncoproteins on the activity of cytoplasmic kinases in keratinocytes  
   Tutor: Anita Szalmás M.Sc., Ph.D.

7. Title: Molecular epidemiology of aminoglycoside resistance in nosocomial Gram negative bacteria  
   Tutor: Gábor Kardos M.D., Ph.D.

8. Title: Intratypical variation of human papillomaviruses  
   Tutor: György Veress M.Sc., Ph.D.
9. Title: Epidemiological characterisation of clinical MRSA isolates
   Tutor: Zsuzsanna Dombrádi M.Sc., Ph.D.

10. Title: Prevalance of multidrug-resistant Acinetobacter baumanii in bloodstream infection
    Tutor: Anita Kozák M.D.

Department of Internal Medicine
1. Title: Immunotherapy of B cell lymphomas.
2. Title: Safety profile of prolonged rituximab therapy in lymphomas.
3. Title: Targeted therapy in non-Hodgkin's lymphomas
   Tutor: Lajos Gergely M.D., Ph.D., D.Sc.

4. Title: Clinical testing of sinus node function.
   Tutor: Péter Kovács M.D., DLA, Ph.D., D.Sc.

5. Title: Lipid abnormalities in hypothyreoidism.
6. Title: The function of LDL in lipid metabolism
   Tutor: György Paragh M.D., Ph.D., D.Sc.

7. Title: Diagnostic tests and imaging techniques in endocrinology.
   Tutor: Endre Nagy M.D., Ph.D., D.Sc.

8. Title: Antiarrhythmic drug treatment.
9. Title: Cardiac arrhythmias in patients end-stage renal failure
10. Title: Pacemaker treatment and myocardial infarction.
11. Title: Pathophysiology of neurocardiogenic syncope.
12. Title: Rhythm disturbances and the autonomic system of the heart.
13. Title: Ventricular repolarization and drugs.
    Tutor: István Lőrincz M.D., Ph.D.

    Tutor: Judit Boda M.D.

15. Title: Characteristics of rare systemic vasculitides
16. Title: Sjögren's syndrome associated with other autoimmune disease
    Tutor: Margit Zeher M.D., Ph.D., D.Sc.

17. Title: Effect of physical activity on physiological parameters elderly people
18. Title: Incidence of thyroid diseases in elderly.
    Tutor: Gyula Bakó M.D., Ph.D., D.Sc.

19. Title: Immunoregulatory abnormality in undifferentiated connective tissue disease
20. Title: Interstitial lung diseases in MCTD.
21. Title: The presence of antiphospholipide antibodies in the disease course of the MCTD
22. Title: Vascular involvement in mixed connective tissue disease.
23. Title: Vascular risk factors in undifferentiated connective tissue disease
    Tutor: Edit Bodolay M.D., Ph.D., D.Sc.
24. Title: Dermato/polymyositis overlap with antiphospholipide syndrome.
25. Title: Genetical study in myositis
26. Title: Improvement of quality of life in polymyositis and dermatomyositis patients by physiotherapy
    Tutor: Katalin Dankó M.D.,Ph.D.,D.Sc.

27. Title: Plasmapheresis treatment in intensive therapy
    Tutor: Pál Soltész M.D., Ph.D., D.Sc.

28. Title: Autoimmune disorders and GI tract
    Tutor: Zsolt Barta M.D., Ph.D.

29. Title: Ischemic colitis.
30. Title: Life quality of Raynaud syndrome
    Tutor: Zoltán Csiki M.D., Ph.D.

31. Title: The disease course after stent implantation in peripheral arterial disease
    Tutor: György Kerekes M.D., Ph.D.

32. Title: Novel therapeutical approaches in multiple myeloma
33. Title: The impact of multi-drug resistance genes in the prognosis of lymphoproliferative disorders
    Tutor: László Váróczy M.D., Ph.D.

34. Title: Inherited and acquired thrombophilia
35. Title: New direct oral anticoagulants
36. Title: Stem cell therapy in peripheral arterial disorders
    Tutor: Zoltán Boda M.D., Ph.D., D.Sc.

37. Title: Gastric cancer: clinics and treatment
38. Title: Gastrointestinal bleeding
39. Title: Gluten sensitive enteropathy
40. Title: Inflammatory bowel diseases.
41. Title: Lymphomas in the gastrointestinal tract.
    Tutor: István Altorjay M.D., Ph.D.

42. Title: Langerhans histiocytosis
43. Title: Osteosclerotic myeloma
44. Title: Therapeutic challenges in rare haemostatic disorders
    Tutor: György Pflegler M.D., Ph.D.

45. Title: Epidemiology, diagnostics and therapy of chronic hepatitis C
46. Title: Pathomechanism of alcoholic hepatitis
47. Title: Signs, diagnostics and treatment of portal hypertension.
48. Title: Therapeutic options in primary sclerotizing cholangitis
49. Title: Treatment of autoimmune hepatitis
    Tutor: István Tornai M.D., Ph.D.

50. Title: A case history of an interesting acute myeloid leukaemia patient in the 2nd Department of Medicine
    (connection with the literature data)
    Tutor: Attila Kiss M.D., Ph.D.
51. Title: Chronic neutrophilic leukaemia  
   Tutor: Béla Telek M.D., Ph.D.

52. Title: Therapeutic options of CML  
   Tutor: László Rejtő M.D., Ph.D.

53. Title: Biological treatment of ulcerative colitis  
   Tutor: Károly Palatka M.D., Ph.D.

54. Title: The role of Willebrand factor in various internal diseases.  
   Tutor: Ágota Schlammadinger M.D., Ph.D.

55. Title: Bacterial infection in liver cirrhosis  

56. Title: Current therapeutic options of acute pancreatitis  
   Tutor: Zsuzsanna Vitális M.D., Ph.D.

57. Title: Diagnosis and treatment of chronic lymphocytic leukemia  

58. Title: Novel therapeutic approaches in the treatment of multiple myeloma  

59. Title: Philadelphia negative chronic myeloproliferative neoplasms - novel genetic and therapeutic improvements  

60. Title: Recent advances in the management of chronic ITP  
   Tutor: Péter Batár M.D., Ph.D.

61. Title: Heparin-induced thrombocytopenia  
   Tutor: Zsolt Oláh M.D.

62. Title: Are the bacterial infections predictable in liver cirrhosis?  

63. Title: Role of serological markers in prediction of disease course and response to therapy in inflammatory bowel diseases.  
   Tutor: Mária Papp M.D., Ph.D.

---

**Department of Pathology**

1. Title: Molecular classification of glial neoplasms  
   Tutor: Péter Molnár M.D., D.Sc.

2. Title: Overview of non-adenohypophysaer neoplastic lesion within and around the sella  

3. Title: Use of IDH-1 immunohistochemistry in surgical neuropathology  
   Tutor: Péter Molnár M.D., D.Sc.

4. Title: Chromosome copy number and mutant allele density in cancer  

5. Title: Expression of Aurora-kinases in lymphoproliferative diseases  

6. Title: Mitotic rate and histone phosphorylation in cancer  
   Tutor: Gábor Méhes M.D., Ph.D.

7. Title: Clinicopathological studies in haemorrhagic stroke  

8. Title: Clinicopathological studies in ischaemic stroke  

9. Title: Molecular pathology of glial brain tumours  

10. Title: Pathomechanisms of cell death in neurodegenerative diseases  
    Tutor: Tibor Hortobágyi M.D., Ph.D.

---

**Department of Pharmacology and Pharmacotherapy**

1. Title: Cardiovascular risk factors  

2. Title: Metabolic link between obesity and insulin resistance  
   Tutor: Zoltán Szilvássy M.D., Ph.D., D.Sc.

3. Title: Optional title in pharmacology  

4. Title: Pharmacological and clinical significance of adenosine receptor antagonists  
   Tutor: József Szentmiklósi M.D., Ph.D.

5. Title: New trends in the treatment of diabetes  

6. Title: Optional title in pharmacology  

7. Title: Pharmacology of herbal remedies  

8. Title: Possible pharmacological exploitations of TRPV1 receptors  
   Tutor: Róbert Pórszász M.D., Ph.D., MBA

9. Title: Effect of colony stimulating factors or other drugs on bone marrow-derived cell lines  

10. Title: How insulin resistance influences drug effects  

11. Title: Selected topic in field experimental hematology  
   Tutor: Ilona Benkő M.D., Ph.D.

12. Title: Investigation of insulin resistance and its cardiovascular complications  

13. Title: Pharmacology of neurogenic inflammation  
   Tutor: Barna Peitl M.D., Ph.D.

14. Title: Optional title on cancer chemotherapy  
   Tutor: Attila Megyeri M.D., Ph.D.

15. Title: Optional title in pharmacology  
   Tutor: Ágnes Cseppentő M.D.

16. Title: Optional title on antibacterial chemotherapy  
   Tutor: Zsuzsanna Gál M.Sc., Ph.D.

---

**Department of Physiology**

1. Title: Alterations of [Ca2+]i in pathological conditions  
   Tutor: László Csernóch M.Sc., Ph.D., D.Sc.

2. Title: Electrophysiological properties of mammalian cardiac tissues  

3. Title: Regional differences in the electrophysiological properties of cardiomyocytes  
   Tutor: Péter Nánási M.D., Ph.D., D.Sc.

4. Title: Significance of the alterations of the intracellular ion concentrations in the functional properties of neurones.  
   Tutor: Géza Szűcs M.D., Ph.D., D.Sc.

5. Title: Role of afterdepolarization mechanisms in the arrhythmogenesis  
   Tutor: Tamás Bányász M.D., Ph.D.

6. Title: Differential roles of protein kinase C isoforms in
CHAPTER 20

different cellular functions

7. Title: Studies on the vanilloid (capsaicin) receptor
   Tutor: Tamás Bíró M.D., Ph.D., D.Sc.

8. Title: Expression and significance of the TASK channels
   in physiological and pathological conditions
   Tutor: János Magyar M.D., Ph.D., D.Sc.

9. Title: Studies on ion channels incorporated into artificial
   membranes

Division of Gastroenterology

1. Title: Gastric cancer: clinics and treatment
2. Title: Gastrointestinal bleeding
3. Title: Gluten sensitive enteropathy
4. Title: Inflammatory bowel diseases
5. Title: Lymphomas in the gastrointestinal tract
   Tutor: István Altorjay M.D., Ph.D.

6. Title: Epidemiology, diagnostics and therapy of chronic
   hepatitis C
7. Title: Pathomechanism of alcoholic hepatitis
8. Title: Signs, diagnostics and treatment of portal
   hypertension
9. Title: Therapeutic options in primary sclerotizing
   cholangitis
10. Title: Treatment of autoimmune hepatitis
    Tutor: István Tornai M.D., Ph.D.

11. Title: Biological treatment of ulcerative colitis
    Tutor: Károly Palatka M.D., Ph.D.

12. Title: Are the bacterial infections predictable in liver
    cirrhosis?
13. Title: Role of the serological markers in prediction of
    disease course and response to therapy in inflammatory
    bowel diseases
    Tutor: Mária Papp M.D., Ph.D.

14. Title: Bacterial infection in liver cirrhosis
15. Title: Current therapeutic options of acute pancreatitis
    Tutor: Zsuzsanna Vitális M.D., Ph.D.

Division of Haematology

1. Title: Immuno-chemotherapy in B-cell non-Hodgkin
   lymphomas
2. Title: Infections during aggressive therapies in
   lymphoma patients
3. Title: New monoclonal antibody based therapeutic
   approaches in the treatment of hematologic malignancies.
4. Title: Next generation sequencing and identification of
   mutations in lymphomas. New targets in therapy.
5. Title: The role of miRNA in the pathogenesis of
   lymphomas, possible targets for therapy
6. Title: Vaccination based therapies in lymphomas
   Tutor: Lajos Gergely M.D., Ph.D., D.Sc.

7. Title: Examination of polyneuropathy in multiple
   myeloma patients treated with bortezomib
8. Title: New treatment approaches in multiple myeloma
9. Title: The role of autologous stem cell transplantation in
   the treatment of autoimmune disorders
10. Title: Treatment results in our multiple myeloma
    patients
    Tutor: László Váróczy M.D., Ph.D.

11. Title: Therapeutic options of CML
    Tutor: László Rejtő M.D., Ph.D.

12. Title: Diagnosis and treatment of chronic lymphocytic
    leukemia
13. Title: Novel therapeutic approaches in the treatment of
    multiple myeloma
14. Title: Philadelphia negative myeloproliferative
    neoplasms - novel genetic and therapeutic improvements
15. Title: Recent advances in the management of chronic
    ITP
    Tutor: Péter Batár M.D., Ph.D.

Division of Rare Diseases

1. Title: Langerhans histiocytosis
2. Title: Osteosclerotic myeloma
3. Title: Therapeutic challenges in rare haemostatic
   disorders
    Tutor: György Pfiegler M.D., Ph.D.

Division of Rheumatology

1. Title: Cardiopulmonary manifestation in systemic
   sclerosis
2. Title: Pulmonary arterial hypertension in systemic
   sclerosis.
   Tutor: Gabriella Szűcs M.D., Ph.D.

3. Title: Rheumatology 2015 - modern diagnostics and
   therapy.
   Tutor: Zoltán Szekanecz M.D., Ph.D., D.Sc.

4. Title: Quality of life in systemic sclerosis
   Tutor: Szilvia Szamosi M.D., Ph.D.

5. Title: Diagnosis and therapy of early arthritis
   Tutor: Nóra Bodnár M.D.

6. Title: Extra-articular manifestations of ankylosing
   spondylitis
7. Title: Modern treatment of spondyloarthritides
   Tutor: Sándor Szántó M.D., Ph.D.

8. Title: Efficacy of long-term therapy with biological
   agents in rheumatoid arthritis.
   Tutor: Ágnes Horváth M.D.

Department of Neurology

1. Title: Cerebral hemodynamics and cognitive dysfunction
   in treated and non-treated stroke patients
2. Title: Neurosonological investigations in acute and
chronic stroke patients
3. Title: Non-invasive investigation of endothelial dysfunction.
   Tutor: László Csiba M.D., Ph.D., D.Sc.

4. Title: Comorbidity in Multiple sclerosis
   Tutor: Tünde Csépány M.D., Ph.D.

5. Title: Effect collateral circulation from the external carotid artery in patients with unilateral internal carotid artery occlusion.
   Tutor: László Oláh M.D., Ph.D.

6. Title: Effect of actual blood pressure on the cerebrovascular reactivity.
   Tutor: László Oláh M.D., Ph.D.

7. Title: Cardiovascular risk in sleep apnea.

8. Title: Hypoxic stress and its consequences in sleep apnea.

9. Title: Obesity and sleep apnea.
   Tutor: Tünde Magyar M.D., Ph.D.

Department of Neurosurgery
1. Title: Comparison of cerebral vasospasm following endovascular or surgical treatment of aneurysmal rupture
2. Title: Do middle cerebral artery aneurysms exhibit right sided dominance?
3. Title: Treatment of multiple cerebral metastases: clinical results
   Tutor: Sándor Szabó M.D., Ph.D.

4. Title: Current treatment of multiloculated hydrocephalus.

5. Title: Surgical treatment of lesional epilepsy
   Tutor: László Novák M.D., Ph.D.

6. Title: Connection of proteoglycans and cell membrane receptors in the peritumoral extracellular matrix
   Tutor: Álmos Klekner M.D., Ph.D.

7. Title: History of neurosurgical radiosurgery.
   Tutor: József Dobai M.D.

8. Title: Vertebroplasty.
   Tutor: Péter Ruszthi M.D.

Department of Nuclear Medicine
1. Title: Development of E-learning material for nuclear medicine
   Tutor: József Varga M.Sc., Ph.D.

2. Title: Analysis of metabolic and morphologic pattern of breast cancer in case of the diameters larger than 3 cm

3. Title: Posttherapeutic I-131 whole body SPECT/CT in patients with thyroid cancer

4. Title: The role of Tc99m-Tektrotyd SPECT/CT to evaluate metastatic neuroendocrine tumors
   Tutor: Ildikó Garai M.D., Ph.D.

5. Title: Localisation of anatomical regions on CT scans with machine learning methods
   Tutor: Zoltán Barta M.D.

6. Title: Screening of thyroid malignancy with scintigraphic methods (Tc99m pertechnetate and MIBI)
   Tutor: Orsolya Sántha M.D.

Department of Obstetrics and Gynecology
1. Title: Clinical trials of new drugs for the treatment of osteoporosis
   Tutor: Ádám Balogh M.D., Ph.D., D.Sc.

2. Title: Diagnosis and Treatment of Endometrial Cancer

3. Title: Diagnosis and Treatment of Ovarian Cancer

4. Title: Diagnosis and Treatment of Vulvar Cancer

5. Title: Screening /Diagnosis and Treatment of Cervical Cancer
   Tutor: Zoltán Hernádi M.D., Ph.D., D.Sc.

6. Title: Labour induction
   Tutor: Tamás Major M.D., Ph.D.

7. Title: Non-invasive prenatal testing for chromosomal aneuploidies
   Tutor: Olga Török M.D., Ph.D.

8. Title: Efficiency and safety of first line chemotherapy in ovarian cancer

9. Title: Efficiency and safety of second and subsequent line chemotherapy in ovarian cancer

10. Title: Efficiency of HPV vaccination

11. Title: Fetal assessment by biophysical profile

12. Title: Marker studies in ovarian cancer

13. Title: Molecular medicine and ovarian cancer

14. Title: Molecular medicine and prenatal diagnosis

15. Title: Neoadjuvant chemotherapy of cervical cancer

16. Title: Placental atherogenesis

17. Title: Surgical treatment of recurrent ovarian cancer

18. Title: Surgical treatment of vulval cancer

19. Title: The role of inherited and acquired thrombophilia in reproductive health

20. Title: The role of lymphadenectomy in the treatment of endometrial cancer

21. Title: The role of preoperative MRI in cervical cancer

22. Title: Trends in operative delivery
   Tutor: Róbert Póka M.D., Dr. habil., Ph.D.

23. Title: Acceptance of invasive prenatal diagnostic tests

24. Title: Meiotic abnormalities and their clinical significance in human reproduction

25. Title: Role of Doppler ultrasound in antenatal care
   Tutor: Tamás Szilveszter Kovács M.D., Ph.D.

26. Title: Anovulatory infertility

27. Title: Examination of genetic concerns about the safety of assisted reproduction

28. Title: Role of antimullerian hormone (AMH) in clinical
<table>
<thead>
<tr>
<th>Title</th>
<th>Tutor</th>
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<tbody>
<tr>
<td>29. Title: Ultrasound dating in pregnancy</td>
<td>Attila Jakab M.D., Ph.D.</td>
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<tr>
<td>30. Title: Vaginal Birth After Cesarean</td>
<td>Alpár Gábor Juhász M.D., Ph.D.</td>
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<tr>
<td>31. Title: Cervical cancer prevention: the role and the future of HPV vaccination besides conventional screening</td>
<td>Zoárd Krasznai M.D., Ph.D.</td>
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<tr>
<td>32. Title: New treatment strategies in ovarian cancer</td>
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<tr>
<td>33. Title: Role of endoscopy in infertility work-up</td>
<td>Péter Török M.D., Ph.D.</td>
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<tr>
<td>34. Title: Pregnancy care in PCOS patients</td>
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<td>35. Title: Special aspects of pregnancy care in patients with endocrine disorders</td>
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<tr>
<td>36. Title: Thyroid autoimmunity: clinical significance, prevention and treatment in human reproduction</td>
<td>Tamás Deli M.D., Ph.D.</td>
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<tr>
<td>37. Title: Transvaginal hydrolaparoscopy - a new method</td>
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<td>38. Title: Hysteroscopic treatment of different gynecologic pathologies</td>
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<td>39. Title: White blood cell function in preeclampsia</td>
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<tr>
<td>40. Title: Contraception in the 21st century</td>
<td>Balázs Erdődi M.D.</td>
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**Division of Gynecological Oncology**

<table>
<thead>
<tr>
<th>Title</th>
<th>Tutor</th>
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<tbody>
<tr>
<td>1. Title: Chemotherapy of ovarian cancer</td>
<td>Zoltán Hernádi M.D., Ph.D., D.Sc.</td>
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<tr>
<td>2. Title: Prognostic relevance of HPV-infection in cervical cancer</td>
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<td>3. Title: Surgical treatment of HPV-infection</td>
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<tr>
<td>4. Title: The prognostic role of CA-125 in ovarian cancer</td>
<td>Zoltán Hernádi M.D., Ph.D., D.Sc.</td>
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<tr>
<td>5. Title: Chemotherapy of cervical cancer</td>
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<td>6. Title: Epidemiology and therapy of vulvar cancer</td>
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<td>7. Title: Epidemiology of metastatic ovarian cancer</td>
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<td>8. Title: Follow-up of endometrial cancer patients, analysis of prognostic factors</td>
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<td>9. Title: Prothrombotic states in gynecologic cancer</td>
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<td>10. Title: Superoxid anion production of granulocytes in gynecologic cancer</td>
<td>Róbert Póka M.D., Dr. habil., Ph.D.</td>
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<tr>
<td>11. Title: Prognostic factors and treatment of cervical cancer</td>
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<tr>
<td>12. Title: The role of CA125 and HE4 in the follow-up of ovarian cancer</td>
<td>Zoárd Krasznai M.D., Ph.D.</td>
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**Department of Ophtalmology**

<table>
<thead>
<tr>
<th>Title</th>
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<tbody>
<tr>
<td>1. Title: Biomechanics of different corneal diseases</td>
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<td>2. Title: Corneal tomography in the diagnosis of keratoconus</td>
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<td>3. Title: Diagnosis and treatment of dry eye</td>
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<td>4. Title: Lamellar and penetrating keratoplasty techniques</td>
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<td>5. Title: Intraocular tumors</td>
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<td>6. Title: Anti VEGF treatment for macular edema in retinal vein occlusion patients</td>
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<td>7. Title: Ocular clinical signs in rare diseases</td>
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<td>8. Title: Corneal dystrophies</td>
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<td>9. Title: Stem cells of the cornea</td>
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<td>10. Title: Nuclear medicine measurements in inflammatory disorders of the eye’s anterior segment</td>
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<td>11. Title: Prospective study of vascular pathogenesis of eye diseases associated to rheumatologic and immunologic disorders</td>
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<td>12. Title: Tear citokine measurements in inflammatory diseases of the anterior segment of the eye associated to immunological and autoimmunological disorders</td>
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<td>13. Title: Tear-clearance measurements in dry eye syndrome with dacryoscentigraphy</td>
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<td>14. Title: Contact lens wear and complications</td>
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<td>15. Title: Cosmetical contact lenses</td>
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<td>16. Title: Importance of screening in diabetic retinopathy</td>
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<td>17. Title: Morphological changes in glaucoma</td>
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<td>18. Title: Ageing of the human eye</td>
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<td>19. Title: Corneal changes after keratorefractive sugeries</td>
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<td>20. Title: Diagnostic evolution in keratoconus</td>
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<td>21. Title: Topometric and tomometric measurements in keratoconus</td>
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<td>22. Title: Examination of peptide receptors in human uveal melanoma</td>
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<td>23. Title: Results of orbital decompression surgeries</td>
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<td>24. Title: Color Doppler in the follow-up of choroidal melanoma after brachytherapy</td>
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<td>25. Title: Fluorescein angiographic characteristics of choroidal melanoma</td>
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<tr>
<td>26. Title: Genetic causes of high grade myopia</td>
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<tr>
<td>27. Title: Molecular genetic analysis of ocular fundus disorders</td>
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</table>

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28. Title: Graves' orbitopathy - current concepts in diagnosis and therapy
   Tutor: Bernadett Ujhelyi M.D., Ph.D.

29. Title: Pathogenesis of Graves' orbitopathy
   Tutor: Bernadett Ujhelyi M.D., Ph.D.

30. Title: Assessing the safety and efficacy of intravitreal ranibizumab as a preoperative adjunct treatment before vitrectomy surgery in severe proliferative diabetic retinopathy (PDR) compared to standard vitrectomy alone
   Tutor: Attila Vajas M.D.

31. Title: Evaluate and demonstrate the results of the Hungarian Lucentis National Patient Registry
   Tutor: Attila Vajas M.D.

32. Title: Congenital ptosis peculiar associated movements of the affected lid
   Tutor: Annamária Nagy M.D.

33. Title: Diagnosis and therapy in retinopathy of prematurity
   Tutor: Annamária Nagy M.D.

34. Title: Non-surgical and surgical therapy of congenital ptosis
   Tutor: Mariann Fodor M.D., Ph.D.

35. Title: Ocular manifestations of Weill-Marchesani syndrome
   Tutor: Mariann Fodor M.D., Ph.D.

36. Title: Pellucid marginal degeneration
   Tutor: Mariann Fodor M.D., Ph.D.

37. Title: BCVA changing after intravitreal ranibizumab injection
   Tutor: Erika Papp M.D.

38. Title: IOP changing after intravitreal ranibizumab injection
   Tutor: Erika Papp M.D.

**Department of Orthopedic Surgery**
1. Title: The role of arthrodesis in the treatment of degenerative arthritis of the knee.
   Tutor: Henrik Rybaltovszki M.D.

2. Title: Treatment options in knee instability.
   Tutor: Henrik Rybaltovszki M.D.

**Department of Otolaryngology and Head and Neck Surgery**
1. Title: The role of the biofilm in the inflammatory diseases of the otolaryngology
   Tutor: László Tóth M.D., Ph.D.

2. Title: Cochlear implantation

3. Title: Middle ear implantation

4. Title: Pathology and treatment of Cholesteatoma
   Tutor: István Sziklai M.D., Ph.D., D.Sc.

5. Title: Cartilage tympanoplasty
   Tutor: István Jókay M.D., Ph.D.

6. Title: Local flaps in head and neck surgery

7. Title: Methods of reconstruction in head and neck surgery

8. Title: Reconstruction of nasal deformities
   Tutor: Attila Szűcs M.D., Ph.D.

9. Title: Local flaps in head and neck surgery
10. Title: Methods of reconstruction in head and neck surgery

**Department of Pediatrics**
1. Title: Contemporary evaluation and treatment of medulloblastoma

2. Title: Thalassemia minor in North-East Hungary
   Tutor: Csongor Kiss M.D., Ph.D., D.Sc.

3. Title: Beta-blocker therapy for preventing and treating cyanotic spells in pre-operative patients with tetralogy of Fallot
   Tutor: Gábor Mogyorósy M.D., Ph.D.

4. Title: Hydrocephaly of infants
   Tutor: Andrea Nagy M.D.

5. Title: IgA nephropathy in childhood
   Tutor: Tamás Szabó M.D., Ph.D.

6. Title: Fungal infections in malignant hematolgy
   Tutor: István Szegedi M.D., Ph.D.

7. Title: Experience with tissue adhesives in lip cleft surgery
   Tutor: Ágnes Magyar M.D.

8. Title: Aldosteron producing suprarenal tumors in children

9. Title: Efficiency of Nordic Walking therapy in case of obese children regarding motivation for slimming

10. Title: Physiotherapy of diabetic children - prevention of hypoglycemia
    Tutor: Enikő Felszeghy M.D., Ph.D.

**Department of Physical Medicine and Rehabilitation**
1. Title: The importance of multidisciplinary rehabilitation to improve functional capacity, quality of life, cardiovascular function and metabolic parameters of obese patients, those suffering from osteoarthritis.

2. Title: The significance of conductive rehabilitation activities in gait development (gait analysis test)

3. Title: The significance of the (upper extremity) functional capacity of patients with cerebrovascular diseases in the effectiveness of rehabilitation
   Tutor: Zoltán Jenei M.D., Ph.D.

4. Title: Assessment of quality of life of people with disabilities or with the risk of disability

5. Title: Goal Attainment Scaling in rehabilitation medicine

6. Title: Treatment of spasticity in children with cerebral palsy
   Tutor: Zsuzsanna Vekerdy-Nagy (retired, part time) M.D., Ph.D.

**Division of Dental Medicine**
1. Title: Alcoholic liver diseases

2. Title: Diagnosis and treatment of primary biliary cirrhosis

3. Title: Diagnostics and therapy of chronic hepatitis B
CHAPTER 20

4. Title: Epidemiology, diagnostics and therapy of chronic hepatitis C
   Tutor: István Tornai M.D., Ph.D.

5. Title: Signs, diagnostics and treatment of portal hypertension
   Tutor: István Tornai M.D., Ph.D.

Department of Psychiatry
1. Title: Effectiveness of schema therapy in personality disorders
2. Title: Emotion dependent and independent cognitive functions in unipolar depression
3. Title: Significance of disfunctional attitudes in depression and anxiety disorders
4. Title: Theory of mind and mentalization deficits in patients with personality disorders
   Tutor: Anikó Égerházi M.D., Ph.D.
5. Title: Brain imaging in psychiatry.
6. Title: Oxidative stress and chronic inflammation in psychiatric disorders
7. Title: Post-traumatic stress disorder and post-traumatic growth.
8. Title: The neurobiology of depression.
9. Title: The role of microbiota in mental health
10. Title: The therapeutic potentials of psychodelics
    Tutor: Ede Frecska M.D., M.A., Ph.D.

Department of Pulmonology
   Tutor: Andrea Fodor M.D.
2. Title: New perspectives in the treatment of community acquired pneumonia
   Tutor: László Brugó M.D., Ph.D.
3. Title: Modern Therapy of NSCLC
   Tutor: Tamás Kardos M.D.

Department of Surgery
1. Title: Differentiated thyroid cancer in Graves' disease
   Tutor: Ferenc Győry M.D.
2. Title: Surgical treatment of bowel obstruction in colorectal diseases
   Tutor: László Damjanovich M.D., Ph.D.
3. Title: Surgical and endovascular interventions in critical limb ischemia
   Tutor: Sándor Olvasztó M.D.
4. Title: Surgical treatment of adrenal tumors
5. Title: Surgical treatment of hyperthyroidism complicated with endocrine orbitopathie
   Tutor: Ferenc Juhász M.D., Ph.D.
6. Title: Surgery of pulmonary metastases
7. Title: Surgical treatment of severe acute pancreatitis
   Tutor: Zsolt Szentkereszty M.D., Ph.D.
8. Title: Laparoscopic fundoplication
   Tutor: László Orosz M.D.
9. Title: The role of one-day surgery
   Tutor: Csaba Bánfi M.D.
10. Title: Histopathologic examination of the carotid plaques regarding their possible prognostic value
    Tutor: Krisztina Litauszky M.D.
11. Title: Liver resections for metastases of colorectal cancer
    Tutor: János Pósán M.D.
12. Title: Prevention of bronchial stump insufficiency after lung resections
    Tutor: István Takács M.D., Ph.D.
13. Title: The clinical significance of occult malignancies
    Tutor: Zoltán Garami M.D.
14. Title: Different forms of hereditary colorectal cancer among our patients.
    Tutor: Miklós Tanyi M.D., Ph.D.
15. Title: Mesh implantation in the surgical treatment of thoracic defects
16. Title: Surgical treatment of myasthenia gravis
    Tutor: Attila Ényedi M.D.
17. Title: Assessment of risk factors associated with local recurrence in distal rectal cancer.
18. Title: Assessment of the results of hybrid operations during pelvo-femoral vascular reconstruction.
    Tutor: Gábor Martis M.D.

Division of Operative Techniques and Surgical Research
1. Title: Anesthesia in experimental animals (for Pharmacy students)
   Tutor: Ádám Deák D.V.M., Ph.D.
2. Title: New technical possibilities in surgery (for Medicine students)
   Tutor: Andrea Furka M.D., Ph.D.
3. Title: Famous surgeons and famous discoveries (for Medicine students)
   Tutor: Irén Mikó M.D., Ph.D., C.Sc.
4. Title: Changes of red blood cell mechanical stability in surgical pathophysiological processes (for Medicine and Dentistry students)
5. Title: Investigation of hemorrheological and microcirculatory changes in ischemia-reperfusion, including therapeutic possibilities (for Medicine students)
Tutor: Norbert Németh M.D., MBA, Ph.D.

6. Title: Hemostatic agents (bioplasts) in surgery (for Pharmacy students)
7. Title: Ischemia-reperfusion injury and its prevention with different methods (for Medicine and Dentistry students)
Tutor: Katalin Pető M.D., Ph.D.

8. Title: Instruments and devices used in pharmacological care (for Pharmacy students)
9. Title: Chapters from the history of surgical asepsis, antisepsis (for Medicine and Dentistry students)
Tutor: Irén Mikó M.D., Ph.D.

10. Title: New methods and techniques in microsurgery (for Medicine students)
Tutor: Enikő Tóth M.D.

Department of Traumatology and Hand Surgery
1. Title: Shoulder replacement (ÁOK, gyógytornász)
Tutor: Ferenc Urbán M.D.

2. Title: Bone and ligament injuries of the hand (ÁOK)
3. Title: Exercises of the physiotherapy in the postoperative treatment of the flexor tendon injuries (gyógytornász)
Tutor: István Frendl M.D.

4. Title: The operative treatment and physiotherapy of the adult distal humeral fractured patients in our department (gyógytornász)
5. Title: Up-to-date operative treatment of femoral neck fractures (ÁOK)
Tutor: István Szarukán M.D.

6. Title: Fractures of the leg (ÁOK)
7. Title: Physiotherapy after operation of the shoulder instability (gyógytornász)
Tutor: András Nagy M.D.

8. Title: Treatment of open fractures (ÁOK)
Tutor: Péter Horkay M.D.

9. Title: Operative treatment of severe skull injuries (ÁOK)
Tutor: Zoltán Németi M.D.

10. Title: Current concept in operative treatment of proximal tibial fractures (ÁOK)
11. Title: Current treatment of intertrochanteric and subtrochanteric femoral fractures (ÁOK)
Tutor: Béla Turchányi M.D., Ph.D.

Department of Urology
1. Title: Different topics regarding prostate cancer
Tutor: Csaba Berczi M.D., Ph.D.

2. Title: New challenges in treatment of renal cancer
Tutor: Csaba Hegedűs M.Sc., Ph.D.

3. Title: Bladder replacement after radical cystectomy
Tutor: Antal Farkas M.D., Ph.D.

4. Title: Male contraception
5. Title: The role of Color Doppler ultrasound in testicular diseases
Tutor: Mátyás Benyó M.D., Ph.D.

Faculty of Dentistry
1. Title: Advanced materials in Dentistry
2. Title: Degradable polymers in Dentistry
Tutor: Csaba Hegedűs M.Sc., Ph.D.

3. Title: Comparison of surgical and non-surgical periodontal therapy
4. Title: Essential oils in periodontal therapy
5. Title: Influences of risk factors on periodontal therapy
Tutor: István Varga D.M.D., Ph.D.

6. Title: Composite posts and their clinical application
7. Title: Psychological analysis of patients with dental allergy
Tutor: Tünde Radics D.M.D., Ph.D.

8. Title: Considerations of full ceramic restorations, concentrating on the types of ceramics
9. Title: Polymerisation shrinkage problem in dentistry
Tutor: Katalin Bukovinszki D.M.D.

10. Title: CAD CAM technologies
11. Title: Peroxide containing tooth whitening techniques
Tutor: Tamás Bistey D.M.D., Ph.D.

12. Title: Dental relations of osteoporosis
13. Title: Temporary restorations in prosthetic dentistry
Tutor: Rita Mohácsi D.M.D.

14. Title: Cone-beam CT investigations in different areas of clinical dentistry
15. Title: Traditional and digital imaging methods in dental practice
Tutor: János Angyal D.M.D., Ph.D.

16. Title: Advanced diagnostic methods in periodontology
17. Title: The role of herpes virus in oral disorders
Tutor: Ildikó Tar Ph.D.

Department of Oral and Maxillofacial Surgery
1. Title: Fractures of edentulous mandible
2. Title: Habitual luxation of mandible
CHAPTER 20

3. Title: Oral surgical aspects of antithrombotic therapy including novel oral anticoagulant drugs
   Tutor: Adrienne Szabó M.D., Ph.D.

4. Title: Contemporary periapical surgery
5. Title: Dental aspects of treating patients receiving antiresorptive therapy
6. Title: Oral surgical aspects of the maxillary sinus inflammations
   Tutor: Etelka D. Tóth D.M.D.

7. Title: Branchiogen cyst of the neck and their treatment
8. Title: Lipomas in maxillofacial region
9. Title: Treatment facilities in chronic bilateral mandibular luxation
   Tutor: Dóra Horváth M.D.

10. Title: Atypical neuralgias in the maxillofacial region
11. Title: Lower jaw fractures in childhood
12. Title: Midface fractures in childhood
   Tutor: Levente Czompa M.D.

13. Title: Dental and surgical aspects of treating patients with special needs
14. Title: Oral surgical treatment of patients with haemorrhagic diathesis
15. Title: Special treatment aspects of teeth impacted in extreme positions
   Tutor: Levente Lukács D.M.D.

16. Title: Etiology and diagnosis of hyposalivation
17. Title: Four-handed dentistry and specific aspects of treatment with general anaesthesia
18. Title: General dental treatment of patients with cleft lip and palate
   Tutor: Boglárka Skopkó D.M.D.

19. Title: Complications of the tooth removal and their treatment
20. Title: Infection control in oral surgery
21. Title: The trigeminal neuralgia
   Tutor: Kálmán Remenyik D.M.D.

22. Title: Clinical appearance of the dental allergy
23. Title: Metal allergy in dentistry
24. Title: Polimer allergy in dentistry
   Tutor: Mára Szepesi D.M.D.

25. Title: Dental and surgical aspects of treating patients with special needs
26. Title: Embriology, clinical appearance and treatment of non-odontogen cysts in the maxillofacial region
27. Title: Possible treatment options of sinus perforation
   Tutor: Orsolya Liska D.M.D.

Department of Pediatric Dentistry and Orthodontics

1. Title: Personality and psychological factors: effect on dental health and belief
<table>
<thead>
<tr>
<th>Title</th>
<th>Tutor</th>
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<tbody>
<tr>
<td>Root canal filling solvents</td>
<td>Enikő Tóth M.D.</td>
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<td>Vertical root fracture: causes diagnosis and therapeutic possibilities</td>
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<td>Postoperative pain in endodontic therapy</td>
<td>Ágnes Jenei D.M.D.</td>
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<td>Root canal filling techniques in endodontics</td>
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<td>Treatment of dental trauma in restorative dentistry</td>
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<td>Endodontic treatment in case of special root canal morphology</td>
<td>László Nagy M.D.</td>
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<td>Endodontic treatment of Taurodens</td>
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<td>Methods and instruments of root canal filling removal</td>
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</tbody>
</table>
# LIST OF TEXTBOOKS

## BMCI

### Introduction to Biophysics I.:
Serway/Vuille: College Physics. 
University of Debrecen.

### Introduction to Medical Chemistry I.:

### Introduction to Medical Chemistry II.:
F., Erdődi, Cs., Csortos: Organic Chemistry for Premedical Students.  
University of Debrecen, 2011.

### Hungarian Language for BMC students:  
Marschalkó, Gabriella: Hungarolingua Basic Level 1.  
Debreceni Nyári Egyetem, 2011.

## BMCI

### Introduction to Biophysics II.:
Serway/Vuille: College Physics.  
University of Debrecen.

### Introduction to Biophysics II.:
Serway/Vuille: College Physics.  
University of Debrecen.

### Introduction to Biology I.:

### Introduction to Biophysics II.:
Serway/Vuille: College Physics.  
University of Debrecen.

### Introduction to Biology II.:

### English for BMC students:  
Soars, John and Liz: Headway - Pre-Intermediate Students' Book and Workbook.  

## BMCII

### Introduction to Biophysics:  
Serway/Vuille: College Physics.  

### Introduction to Medical Chemistry:  
F., Erdődi, Cs., Csortos: Organic Chemistry for Premedical Students.  
University of Debrecen, 2011.

### Introduction to Biology:  

### 1st year

#### Hungarian Crash Course:  
Marschalkó, Gabriella: Hungarolingua Basic Level 1.  
Debreceni Nyári Egyetem, 2011.

## Odontology:

- B.G. Jansen van Rensburg: Oral Biology.  
- M. M. Ash: Wheeler's Dental Anatomy, Physiology, and Occlusion.  
- Geoffrey C van Beek: Dental Morphology an illustrated guide.  

## Medical Psychology I.:

- Mártí Csabai and Péter Molnár: Medical Psychology.  
  Background material. Reprint University of Debrecen, 2008.

## Medical Chemistry:

Gergely, P.: Organic and Bioorganic Chemistry for Medical Students.  
3rd edition. Medical and Health Science Center, University
Gergely, P.: Introduction to Bioinorganic Chemistry for
Medical Students.
Medical and Health Science Center, University of
Debrecen, 2008.
Ed. Dombrádi, V.: Laboratory Practicals in Medical
Chemistry.
Medical and Health Science Center, University of
Debrecen, 2009.

**Biostatistics:**
Wayne W. Daniel: Biostatistics: a foundation for analysis
in the health sciences.
0-471-52988-5.

**Physical foundations of biophysics:**

**Biophysics:**

**Hungarian Language I/1.:**
Győrffy Erzsébet, Ph.D.: Hogy s mint? I.
2013.

**Computer Science:**
Greg Perry: Microsoft Office.

**Oral Anatomy, Histology and
Embryology I.:**
683-06141-0.
Sobotta: Atlas of Human Anatomy I.-II.
10349-0.
T. W. Sadler: Langman's Medical Embriology.
978-1-4511-4461-1.
and Atlas.
5th edition. Lippincott Williams & Wilkins, 2006. ISBN:
0-781-75056-3.
D.J. Johnson: Anatomy for Dental Students.
B.K.B. Berkovitz, G.R. Holland, B.J. Moxham: A Color
J.K. Avery: Essentials of oral histology and embryology. A
clinical approach.
00460-1.

**Molecular Biology:**
Alberts et al.: Molecular Biology of the Cell.
T. Á. Brown: Genomes.
Ed. László Fésüs: Biochemistry and Molecular Biology
on-line Syllabus Volume I.: Molecular Biology, 2014..
URL: http://bmbi.med.unideb.hu

**First aid and reanimation:**
The St. John Ambulance Association and Brigade, The
British Red Cross society: First Aid Manual.
József Betlehem: First Things to Be Done in Emergencies
– Providing First Aid for Health Professionals.
Medicina Könyvkiadó Zrt., 2012.

**Preventive Dentistry I.:**
N. O. Harrais, F. Garcia-Godoy: Primary Preventive
Dentistry.
9780132412230.

**Cell Biology:**
Alberts et al.: Molecular Biology of the Cell.
Alberts et al.: Essential Cell Biology.
3481-8.
Cell Biology Laboratory Manual.
Department of Biophysics and Cell Biology, 2003.
Lodish et al.: Molecular Cell Biology.

**Hungarian Language I/2.:**
Győrffy Erzsébet, Ph.D.: Hogy s mint? I.
2013.

**Medical Genetics:**
Robert L. Nussbaum, Roderick R. McInnes, Huntington F.
Willard, Ada Hamosh: Thompson and Thompson Genetics
in Medicine.
3080-5.
Practical Courses in Genetics.
University Medical School of Debrecen, 2002.
1-4496-8688-8.
Thomas D. Gelehrter, Francis S. Collins, David Ginsburg:
Principles of Medical Genetics.
Tom Strachan, Andrew P. Read: Human Molecular
Genetics.
100362-6.
CHAPTER 21

Medical Genomics:

Latin Language:
Répás, László - Bóta, Balázs: E-learning site for students of Medical terminology. URL: http://www.medi-lingua.hu

2nd year

Oral Anatomy, Histology and Embryology II.:

Biochemistry I.:

Dental Materials:

Dental Physiology I.:

Investigation of the embryonic cell- and tissue differentiation:
Scott F. Gilbert: Developmental Biology. 6th edition..

Biochemistry II.:

Introduction to the Fixed Prosthodontics:

Dental Physiology II.:
R. F. Shmidt, G. Thews: Human Physiology.
# LIST OF TEXTBOOKS

## 2nd year

### Neurobiology (Neuroanatomy, Neurobiochemistry, Neurophysiology):


Lecture handouts (including figures). URL: http://bmbi.med.unideb.hu

### Functional Anatomy of the Visual System:


## Selected Problems of the Neural Control: Modelling of Single Neurons and Neural Networks:


### Latin Medical Terminology:


Répás, László - Bóta, Balázs: E-learning site for students of Medical terminology. URL: http://www.medi-lingua.hu

### Modern biophysical methods in biology and medicine:


## 3rd year

### Pathology I.:


### Clinical Biochemistry I.:


### Immunology:


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<thead>
<tr>
<th>List of Textbooks</th>
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<tbody>
<tr>
<td>Terrence, F. Ackerman, Carson Strong: A Casebook of Medical Ethics.</td>
<td>Oral Surgery Propedeutics:</td>
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<td>Roy W. Perett: Buddhism, euthanasia and the sanctity of life.</td>
<td>Alapítvány a Száj- Arc- és Állcsontsebészeti Betegségek</td>
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<td>Peterson: Contemporary Oral and Maxillofacial Surgery.</td>
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<td>Medical Sociology:</td>
<td>Propedeutics and technology of total and partial removable dentures:</td>
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<td>Clinical Biochemistry II.:</td>
<td>Kovács, Judit: A fogási szaknyelv alapjai 2.</td>
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<tr>
<td>János Kappelmayer and László Muszbek: Practicals in laboratory medicine.</td>
<td>Cellular and molecular pathophysiology of the cardiovascular</td>
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<td>Debrecen, 2010.</td>
<td>system:</td>
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<td>Basic Surgical Techniques:</td>
<td>Öpíe L.H.: The Heart, Physiology, from cell to circulation.</td>
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<td>Techniques, Faculty of Medicine.</td>
<td>Latin Medical Terminology:</td>
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<td>Radiology, Dental Radiology:</td>
<td>Répás, László - Bóta, Baláz: E-learning site for students of</td>
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<td>Foundations of Periodontics for the Dental Hygienist . 3rd</td>
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<td>Clinical Physiology:</td>
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<tr>
<td>S.J., Ganong, W.F.: Pathophysiology of Disease. An Introduction to Clinical</td>
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<td>Medicine.</td>
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</tbody>
</table>
Restorative Dentistry Propedeutics II. (Endodontics):
M. Manoque, S. Patel, R. Walker: The Principles of Endodontics.
2005.

4th year
Restorative Dentistry I. (Cariology):
Jean-Francois Roulet, Nairn H.F. Wilson, Massimo Fuzzi: Advances in Operative Dentistry.
D.B. Ferguson: Oral Bioscience.
Palmer CA: Diet and Nutrition in oral health.

Oral Surgery I.:
Peterson: Contemporary Oral and Maxillofacial Surgery.

Orthodontics I.:
Declan T. Millet, Richard Welbury: Orthodontics and Paediatric Dentistry.

W.R. Profitt: Contemporary Orthodontics.
Laura Mitchell: An Introduction to Orthodontics.

Periodontology I.:
Lindhe J. - 2 Volumes: Clinical Periodontology and Implant Dentistry.
Raitetschak, K. H.: Periodontology.

Prosthetic Dentistry I.:
W. J. O'Brien: Dental Materials and Their Selection.
Quintessence Publishing Co. ISBN: 0-86715-201-X.
Zarb-Bolender: Prosthodontic Treatment for Edentulous Patients.

Dental Pharmacology I.:
Yagiela JA, Neidle EA, Dowd FJ.: Pharmacology and Therapeutics for Dentistry.

Otolaryngology:
István Sziklai: Oto-Rhino-Laryngology.

Dermatology:
LIST OF TEXTBOOKS

**Internal Medicine I.:**

**Hungarian Language Elective - Medical I.:**
Marthy Annamária, Végh Ágnes: Egészségére! Magyar orvosi szaknyelv.
Semmelweis Egyetem Egészségtudományi Kar, 2012.

**Cardiac interventions:**
Nguyen T.N.: Practical Handbook of Advanced Interventional Cardiology.

**Echocardiography:**
Feigenbaum: Echocardiography.

**Preventive Medicine and Public Health:**

**Oral Surgery Elective I. Extraction Practice:**
Szabó Gy.: Oral and Maxillofacial Surgery.
Peterson: Contemporary Oral and Maxillofacial Surgery.

**Endodontics elective I.:**

**Oral Surgery II.:**

**Orthodontics II.:**
Declan T. Millett, Richard Welbury: Orthodontics and Paediatric Dentistry.
W.R. Proffit: Contemporary Orthodontics.
Laura Mitchell: An Introduction to Orthodontics.

**Periodontology II.:**
Lindhe J. - 2 Volumes: Clinical Periodontology and Implant Dentistry.
CHAPTER 21


Jean-Francois Roulet, Nairn H.F Wilson, Massimo Fuzzi: Advances in Operative Dentistry.


5th year


Jean-Francois Roulet, Nairn H.F Wilson, Massimo Fuzzi: Advances in Operative Dentistry.


A. Cameron, R. Widmer: Handbook of Pediatric Dentistry.
LIST OF TEXTBOOKS

Oral Medicine:

Oral Surgery III.:

Neurology:
Mumenthaler: Neurology.
2004.
Neurology.
URL: www.neuropat.dote.hu/ideg/minimum.htm

Pediatrics:

Prosthetic Dentistry III.:
W. J. O'Brien: Dental Materials and Their Selection.
Zarb-Bolender: Prosthodontic Treatment for Edentulous Patients.

Cardiac interventions:
Nguyen T.N.: Practical Handbook of Advanced Interventional Cardiology.

Echocardiography:
Feigenbaum: Echocardiography.

Hungarian Language Elective - Medical I.:
Marthy Annamária, Végh Ágnes: Egészségére! Magyar orvosi szaknyelv.

Endodontics elective II. (Microscope in dental practice):
Rick Schmidt, Martin Boudro: The Dental Microscope (Why and How).

Restorative Dentistry IV. (Cariology and Endodontics):
Jean-Francois Roulet, Nairn H.F. Wilson, Massimo Fuzzi: Advances in Operative Dentistry.
D.B. Ferguson: Oral Bioscience.
M. MANOQUE, S. Patel, R. Walker: The Principles of Endodontics.
2005.

Oral Surgery IV.:

Pediatric Dentistry II.:
A. Cameron, R. Widmer: Handbook of Pediatric Dentistry.
Prosthetic Dentistry IV.:  
W. J. O'Brien: Dental Materials and Their Selection.  
Zarb-Bolender: Prosthodontic Treatment for Edentulous Patients.  

Cellular and molecular pathophysiology of the cardiovascular system:  
Opie L.H.: The Heart, Physiology, from cell to circulation.  

Hungarian Language Elective - Medical II.:  
Marthy Annamária, Végh Ágnes: Egészségére! Magyar orvosi szaknyelv.  

Cariology elective III. (Esthetics in restorative dentistry):  
Pilling János: Medical Communication.  

Periodontology III.:  
Lindhe J. - 2 Volumes: Clinical Periodontology and Implant Dentistry.  