

## REQUIREMENTS

<b>Semmelweis University, Faculty of Dentistry Department of Physiology</b>
<b>Name of the course: Medical and Dental Physiology II.</b> <b>Credit value: 8</b> <b>Lessons (<i>in hours</i>): 8.5    lectures: 5    practicals: 3.5    seminars: -</b> <b>Type of the course: <u>compulsory</u>    obligatory elective    elective</b> <b>Frequency of announcement (<i>per semester or year</i>):</b>
<b>Academic year: 2022/2023 academic year, II. semester</b>
<b>Subject code<sup>1</sup>: FOKOELT349_2A</b>
<b>Lecturer of the course: Dr. András Balla</b> <b>Contact: Semmelweis University, Department of Physiology; phone: +36-1-459-1500/60450</b>
<b>The goals of the course in point of view of the education:</b> The goal of Medical and Dental Physiology course is to give the students the understanding of the concepts and principles of medical and dental physiology. The lectures provide the information base while the seminars and practices provide the student with an opportunity to assimilate and integrate the material. Appropriate clinical perspectives are presented throughout the course.
<b>Location of the course (<i>address of lecture hall, seminar room etc.</i>):</b> Semmelweis University; Department of Physiology; H-1094 Budapest, Tűzoltó u. 37-47.
<b>Competences acquired by completion of the course:</b> Understanding of the human physiology which is foundation of medical and dental practice.
<b>Pre-study requirements and prerequisites of course registration and completion:</b> (see Curriculum, NEPTUN)
<b>Number of students required for announcement of course (<i>min., max.</i>):</b> Maximum 100 students based on the registration in the NEPTUN system.
<b>Method of course registration:</b> Registration must be recorded through the NEPTUN system.
<b>Detailed course/lecture description<sup>2</sup>:</b> ( <i>to facilitate credit recognition in other institutions</i> ) <i>Lectures</i> 1. General principles of regulation in the gastrointestinal tract. Motor functions of the gastrointestinal tract. 2. Secretory functions of the gastrointestinal tract. Digestion and absorption of food. 3. Endocrine regulations. The hypothalamo-adenohypophyseal system; growth hormone, somatomedins. 4. Function of the adrenal cortex. Function of the thyroid gland. Energy balance, quality and quantity requirement of food. 5. Hormonal regulation of intermedier metabolism. 6. Calcium metabolism, bone tissue, growth. Function of the reproductive system: endocrinology of the sexual differentiation and development. 7. Function of the reproductive system: male sexual function; female sexual function; endocrinology of pregnancy, parturition, and lactation. 8. Introduction to neurophysiology. Physiology of nerve & glia cells.

9. Sensory functions.
10. Physiology of hearing and equilibrium.
11. Physiology of vision.
12. Motor functions.
13. Integration of autonomic responses.
14. Electroencephalogram (EEG); sleep phenomena. Learning and memory. Regulation of behavioral mechanisms, motivation; emotion.

*Practices*

- Human pulmonary function tests
- Smooth muscle of rabbit small intestine
- Oral glucose tolerance test (OGTT)
- Electrooculography (EOG) and investigation of the vestibular system
- Reflex function
- Computer simulation: Studies on circulatory reactions of a virtual rat
- Computer simulation: Neuromuscular junction

**Courses (*obligatory and elective*) which in part or entirely overlap the topics of above course: -**

**Special academic work required for completion of the course<sup>3</sup>: -**

**Attendance on practices and lectures, replacement in case of missed sessions:**

The lecture hours per week are 5; the practice hours per week are 3.5. The attendance in minimum 75% of practices (including “seminars”) is necessary for the end-term signature. Students must write a lab report for each practice using the Practical Book. The Practical Book should be signed by the teacher not later than one week after the practice. Participation in the practices is compulsory. No more than three absences from practices are allowed for any reason; otherwise the semester will not be credited. There are no extra practices and missed practices cannot be retaken. Absence from the exam must be certified at the Head of the Department or Course Director within 3 working days.

**Consequences of absence from sessions and exams:**

No more than three absences from practices are allowed for any reason; otherwise the semester will not be credited. There are no extra practices and missed practices cannot be retaken. Failing to certify absence from an exam causes registering “absence” = “nem jelent meg” in the NEPTUN system.

**Method of checking acquired knowledge during the study period<sup>4</sup>:**

The knowledge of the students is tested in a written form on a weekly base. The written short tests cover the material of lectures of the previous week. Missed tests cannot be repeated. The evaluation of the weekly written test will be expressed as a percentage. The average of percentages of the nine best written tests results in a five-point scale:

0-50% = 1, 51-60% = 2; 61-70% = 3, 71-80% = 4, 81-100% = 5.

This grade is taken into account in the exams.

**Requirements of an accepted semester (*signature of the lecturer*):**

The attendance in minimum 75% of practices (including seminars) is necessary for the end-term signature. Students must write a lab report for each practice using the Practical Book. The Practical Book should be signed by the teacher not later than one week after the practice. Participation in the practices is compulsory. No more than three absences from practices are allowed for any reason; otherwise the semester will not be credited.

**Type of the exam:**

In the examination period the students have to give final exam in the second semester.

**Requirements of the exam<sup>5</sup>:**

Final exam: material of the Medical and Dental Physiology I. and Medical and Dental Physiology II. The final exam consists of written and oral part. The students need to bring ID card and the laboratory report book to participate in the exam. The written and oral part of the final exam is held on the same day. The oral part consists of two theoretical questions (I-II). Failed (1) theoretical question results in an overall failed (1) final exam. The mathematical average of three partial grades (written exam grade, and

two oral exam grades) gives the grade of the final exam.

Lists of the theoretical questions can be found in the webpage of the Department of Physiology. The following rules will be enforced during the exams: electronic devices must be kept in the baggage; baggage and coats should be placed next to the wall of the exam place; any form of communication is disallowed; students not complying with these rules will be disqualified immediately.

**Grading of courses<sup>6</sup>:**

The final exam consists of a written and an oral part. The written and oral part of the final exam starts at 8:45 by showing up in the selected exam place. Your exam place and examiners are announced in written form at 8:30 (attached to the front door of the corridor of the Physiology Practice Rooms). The written part consists of 30 questions and takes 45 minutes. Grading of the written part:

0-14 correct answers = 1  
15-18 correct answers = 2  
19-22 correct answers = 3  
23-26 correct answers = 4  
27-30 correct answers = 5

The oral exam starts at 9:45 and consists of two theoretical questions (I-II). Grouping of questions, the topics of the final exam can be found in <http://semmelweis.hu/elettan/teaching/second-semester>.

I: 1, 2, 3, 4 and 5 topics of the final exam

II: 6, 7 and 8 topics of the final exam

The overall grade of the final exam is the mean of four (lab grade, written exam grade, two oral exam grades), but a failed (1) theoretical question results in an overall failed (1) exam.

Excellent (5): 4.51 - 5.00  
Good (4): 3.51 - 4.50  
Satisfactory (3): 2.51 - 3.50  
Pass (2): 2.00 - 2.50  
Fail (1): below 2.00 or in case of failed (1) theoretical question.

The following rules will be enforced during the exam: electronic devices must be kept in the baggage; baggage and coats should be placed next to the wall of the lecture halls or the practice rooms; any form of communication is disallowed; students not complying with these rules will be disqualified immediately.

Failing to certify absence causes registering “absence” = “nem jelent meg” in the NEPTUN system.

**Exam registration:**

Registration for the exam must be recorded through the NEPTUN system.

**Rules of repeating exams:**

Repetition of the exam is possible at least three days after the unsuccessful trial.

**List of textbooks, lecture notes and recommended textbooks:**

**Textbook:** Koeppen-Bruce M- Stanton- Bruce A: Berne & Levy Physiology (7th edition). 2017. ISBN: 9780323393942

**Practice book:** Practices in Medical Physiology (Edited by: Péter Enyedi and Levente Kiss). 2017. ISBN: 9789633314159.

**Signature of course lecturer:**

**Signature of head of department:**

**Date of submission:**

**2022.05.15.**

**Opinion of OKB:**

**Notes from the Dean's Office:**

**Signature of Dean:**

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<sup>1</sup> Filled out by the Dean's Office following approval

<sup>2</sup> Detailed and numbered for each week of theoretical and practical lessons one by one, indicating the names of lecturers and instructors

<sup>3</sup> Eg. field practice, medical chart analysis, survey conducting, etc.

<sup>4</sup> Eg. homework, report, midterm exam etc. Topics, dates, method of retake and replacement.

<sup>5</sup> List of topics in case of theoretical exam, thematic and method in case of practical exam.

<sup>6</sup> Method of inclusion of theoretical and practical exams. Method of inclusion of midterm assessments.