



## COURSE REQUIREMENTS

<p><b>Semmelweis University, Faculty of Medicine</b>  <b>Department of Internal Medicine and Oncology</b></p>
<p><b>Course name:</b> Internal Medicine I.  <b>Credit:</b> 7  <b>Contact hours: 98 ( 5-week blocks, 4 times during the semester)</b>              lectures: 24 hours              practice (case discussion): 36 hours              practice (bedside): 38 hours  <b>Type: <u>obligatory</u> / elective</b></p>
<p><b>Year:</b> 2022/2023</p>
<p><b>Subject code:</b> AOKBOK784_1A</p>
<p><b>Course director:</b> Prof. dr. István Takács  <b>Title:</b> professor, department head  <b>Date and number of habilitation:</b> 2011, 328 (Semmelweis University)</p>
<p><b>Objective of the course and how it fits in the educational curriculum:</b></p> <p>The primary objective of the course in internal medicine for fourth-year students, who have been acquired the basic skills of physical examination, is the symptom-based and patient-oriented education of various segments of internal medicine. Internal medicine I comprises <b>endocrinology, metabolic disorders, nephrology and gastroenterology</b>. Students become familiar with the diagnostics and the treatment of the most common disorders of these disciplines.</p>
<p><b>Location:</b> Department of Internal Medicine and Oncology          1083 Budapest, Korányi S. u. 2/a</p>
<p><b>Skills obtained by successful completion of the course:</b></p> <p>Education of internal medicine commences in third year by teaching propedeutics, and finishes in the final year - providing a backbone for medical education. Our major objective throughout this period is the integration of the knowledge provided by preclinical and clinical subjects into our curriculum. By the time of graduation, our students – the future doctors – should have up-to-date theoretical and practical knowledge, as well as an ability to make appropriate interpersonal relationship with patients, relatives and medical personnel that together, provides the basis of independent medical decisions.</p>
<p><b>Prerequisites of the course:</b>          Internal Medicine Propedeutics, Translational Medicine - Pathophysiology II, Pharmacology and Pharmacotherapy II</p>
<p><b>Number of students (minimum, maximum) required to initiate the course</b>          Based on student registration in Neptun, in four blocks throughout the year.          In each block ~45-50 students are expected.</p>
<p><b>Registration to the course:</b>          Through the Neptun system</p>

**Detailed syllabus:**

During a 5-week block practice, students spend 13 days in the department, through 4 weeks. Exams are held on the fifth, final week. Students are assigned into groups (15-16 students / group) for the case discussions that are held in rotation, resulting in fewer students learning about a given topic at a time. Bedside practices are also held in small groups (7-8 students/group).

Within the daily schedule, there are lectures for the entire block of students (45-50 students), and case discussion practices in rotation and bedside practices for small groups of students.

**Schedule:**

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Friday</b>
8:15-9:45	Case discussion 1	Case discussion 3	Case discussion 5	Case discussion 7
10:00-12:15	Bedside practice	Bedside practice	Bedside practice	Bedside practice
13:15-14:00	Lecture 1	Lecture 3	Lecture 5	Lecture 7
14:15-15:00	Lecture 2	Lecture 4	Lecture 6	Lecture 8
15:15-16:00	Case discussion 2	Case discussion 4	Case discussion 6	Case discussion 8

***Endocrinology and metabolic diseases*****Lectures:**

1. Introduction to endocrinology: Diseases of the pituitary and the hypothalamus.
2. Thyroid disorders – symptoms, diagnosis and treatment.
3. Thyroid nodules and cancer.
4. Secondary endocrine hypertension (primary aldosteronism, pheochromocytoma).
5. Glucocorticoid deficiency and overproduction: Addison's disease and Cushing's syndrome, iatrogenic Cushing's syndrome.
6. Neuroendocrine tumours.
7. Disorders of the gonads.
8. Disorders of calcium metabolism.
9. Causes and diagnosis of blood glucose disorders.
10. Glucose control in diseases of carbohydrate metabolism.
11. Managing diabetic patients and their complications.
12. Obesity, management and treatment of patients with lipid metabolism disorders.

**Case discussions:**

1. Diagnosis, treatment and follow-up of patients with pituitary adenoma and hypopituitarism. (90')
2. What to do in case of altered TSH, examination of thyroid disorders. (90')
3. Examination of cortisol overproduction and deficiency, follow-up and management of patients with Cushing's syndrome and adrenocortical insufficiency (90')
4. Diagnosis and treatment of osteoporosis. (90')
5. Managing diabetes mellitus – diet and treatment. (90')
6. Purine, iron, copper and other rare metabolism disturbances. (90')
7. Thyroid nodules, examination of thyroid cancer, radioiodine treatment. (45')
8. Options of neuroendocrine tumour treatment, endocrine paraneoplastic syndromes. (45')
9. Examination and treatment of hyper- and hypocalcaemia (45')
10. Thyroid ultrasound (45')

11. Managing and follow-up of diabetic patients, complications. (45')
12. Obese patient, metabolic syndrome, when to treat elevated cholesterol. (45')

### ***Nephrology***

#### **Lectures:**

1. Glomerular diseases.
2. Tubulointerstitial and cystic kidney diseases.
3. Electrolyte disorders.
4. Renal transplantation.
5. Differential diagnostics of renal diseases.

#### **Case discussions:**

1. A young female patient with acute kidney injury and liver dysfunction. (90')
2. Approach to a patient with glomerulonephritis. (90')
3. Dialysis treatment. (90')
4. Management of a patient with chronic kidney disease. (45')
5. Vascular disorders of the kidneys, kidney stones and urinary tract infection. (45')
6. Hematuria and proteinuria during pregnancy. (45')

### ***Gastroenterology***

#### **Lectures:**

1. Disorders of the oesophagus and the stomach.
2. Disorders of the small bowel, malabsorption and maldigestion.
3. Inflammatory bowel diseases.
4. Diseases of the large bowel. Functional GI disorders.
5. Gastrointestinal bleeding.
6. Management of a patient with acute liver failure.
7. Disorders of the pancreas.

#### **Case discussions:**

1. Management of a patient with a pancreatic disease. (90')
2. Approach to a patient with acute abdominal pain. (90')
3. Approach to a patient with an abnormal liver function test. (90')
4. Differential diagnosis and management of obstructive jaundice. (45')
5. Approach to a patient with swallowing difficulty. (45')
6. Celiac disease. Differential diagnosis of diarrhoea (45')

On the 5th week, on Monday morning (10:00 AM), a written test is taken by all students. On the following days (Tuesday - Friday), students continue with a bedside, patient-oriented oral exam.

#### **Subjects (either obligatory or elective) the content of whose may overlap with the current course**

Disorders of the thyroid gland - Surgery, Nuclear Medicine  
 Reproductive endocrinology – Obstetrics and Gynaecology, Urology  
 Diabetes mellitus – Ophthalmology, Neurology, Dermatology  
 Acute abdomen – Surgery  
 Gastroenteritides – Infectology  
 Acute kidney injury – Urology, Intensive Therapy

#### **Additional assignments to be completed for the course:**

None

#### **Required attendance:**

According to the rules of the University, students are required to participate on at least 75% of all sessions. This is evaluated through attendance sheets signed by the tutor.  
Retake of lectures / bedside practices are feasible based on an individual agreement with the course coordinator (Studinger.peter@med.semmelweis-univ.hu). Retake of case discussions is not provided by the Department.

**Midterm evaluation:**

There is no formal midterm evaluation. During case discussions and bedside practices the interaction between students and the tutor provides an opportunity to assess the knowledge of students.

**Requirements for obtaining the signature for the course:**

Participation on at least 75% of all sessions. At the end of the semester, after the student has taken his/her attendance sheet to the secretariat, the Course Director grants credits to students in the Neptun system.

**Exam type: semi-final, written and oral parts**

On the first day of the exam week, students take a 60-min written test.

After the test, during the following days, a bedside, patient-oriented oral exam is taken.

In case of a failure during the written test, oral retake exam is provided on the last day of the exam week.

**Exam material<sup>6</sup>:**

- Written test from the topics covered by lectures, case discussions and bedside practices.
- Bedside, clinical case-based, practice-oriented oral examination.

**Examination grades<sup>7</sup>:**

Written test and oral exam both provide 50-50 points. Passing the written test requires at least 25 points (50%)

Score-to grade conversion is as follows:

90-100: excellent (5), 80-89: good (4), 70-79: average (3), 60-69 pass (2), <60 fail (1).

**Registration to the exam:**

Through Neptun system

**Repeat exams, failed exams:**

According to the general rules of the University

**Suggested print, electronic, online material**

1. Lynn S. Bickley: Bates' Guide to Physical Examination and History Taking. (Wolters Kluwer, 12<sup>th</sup> Ed., 2016.) ISBN: 9781469893419
2. Feather – Randall – Waterhouse: Kumar and Clark's Clinical Medicine. (Elsevier, 10<sup>th</sup> Ed., 2020), ISBN: 9780702078682
3. Jameson – Fauci – Kasper – Hauser – Longo – Loscalzo: Harrison's Principles of Internal Medicine. (McGraw-Hill Education, 21<sup>st</sup> Ed., 2022). ISBN: 9781264268504
4. Lecture and case discussion slides ([bell.semmelweis.hu](http://bell.semmelweis.hu))

**Signature of the course director:**



**Signature of the host institution:**

**Submission date:**

**OKB decision:**

**Notes of the dean:**

**Deans' signature:**