

COURSE REQUIREMENTS

Semmelweis University, Faculty of Medicine
Name of the coordinating department (and any cooperating departments): Semmelweis University, Department of Clinical Oncology and Department of Radiotherapy
Course title: Clinical Oncology Credits: 4 Total hours: 40 hours (lectures: 12 hours, practicals: 27 hours, written test: 1 hour) Course type: Compulsory
Academic year: 2025/26, first semester
Course code: ÁOKONK1122_1M / _1A / _1N
Course Director: Prof. Magdolna Dank Institution, telephone number: +36 1 224-8600 Position: Head of Department, University Professor Date and registration number of habilitation: 07 June 2010, No. 294 and Course Director: Prof. Csaba Polgár, MD, PhD Institution, telephone number: +36 1 224-8600 Position: Head of Department, University Professor Date and registration number of habilitation: 30 May 2007, No. 252
Course objectives and its place in the medical curriculum The aim of the Clinical Oncology course is to provide students with modern, up-to-date, and comprehensive knowledge on the recognition, diagnosis, and treatment of malignant diseases. During the course, students will become familiar with the most important etiological and epidemiological factors of cancer, the possibilities for early detection, and the fundamentals of oncological diagnostics. Special emphasis is placed on modern oncological therapies, including the principles, indications, and side effects of chemotherapy, targeted therapy, and immunotherapy. Students will learn about multidisciplinary and personalized treatment strategies for solid tumors, as well as opportunities for rehabilitation and long-term follow-up. The course also offers insight into the operation of multidisciplinary tumor boards and the practice of precision medicine, enabling students to competently engage in the complex decision-making processes of oncological patient care. The training aims to provide a solid foundation for the development of clinical oncological thinking and for future practical medical work. Radiotherapy Day The objective of this section of the course is for students to acquire knowledge on: <ul style="list-style-type: none">• the physical and chemical principles and biological effects of radiotherapy,• external beam radiotherapy and brachytherapy,• radiotherapy treatment planning,• the basic principles of radiotherapy equipment operation,• the role of radiotherapy in the treatment of malignant tumors,

- current radiotherapeutic approaches for the most common solid tumors, including radiochemotherapy and radiobiotherapy,
- early and late side effects of radiotherapy and their possible prevention and management,
- palliative irradiation and the use of radiotherapy in oncological emergencies.

Venue of course delivery (lecture halls, seminar rooms, etc.):

- Semmelweis University, Department of Clinical Oncology, National Institute of Oncology, 1122 Budapest, Ráth György u. 7-9.
- Semmelweis University, Department of Radiotherapy, National Institute of Oncology, 1122 Budapest, Ráth György u. 7-9.
- National Institute of Oncology, Radiotherapy Centre, 1122 Budapest, Ráth György u. 7-9.

Competencies acquired upon successful completion of the course:

- **Acquisition of modern oncological core knowledge:**
Comprehensive understanding of the epidemiology, etiology, early detection, diagnostics, and therapy of malignant diseases.
- **Application of the fundamentals of precision medicine:**
Clinical interpretation of molecular diagnostic methods and biomarkers in therapeutic decision-making.
- **Practical knowledge of medical oncology treatments:**
Recognition of indications, application, and adverse effects of chemotherapy, targeted therapy, immunotherapy, and biological treatments.
- **Understanding of multidisciplinary, tumor board–based decision-making:**
Mastery of the logic and function of multidisciplinary patient management.
- **Development of communication and psycho-oncological skills:**
Empathetic physician–patient communication, managing difficult situations, and delivering bad news.
- **Palliative care approach and basic rehabilitation knowledge:**
Fundamentals of comprehensive, holistic cancer patient management.
- **Use of digital tools and artificial intelligence in oncology:**
Interpretation of digital data and familiarity with AI-based decision support systems.

Radiotherapy Day (for 5th-year medical students)

Building on prior studies, students acquire general knowledge of radiotherapy and understand the indications and role of radiotherapy in the treatment of malignant diseases.

Prerequisites for enrolling in and completing the course:

Anatomy, Physiology, Pathology, Microbiology, Clinical Pharmacology, Translational Medicine, Laboratory Medicine, Surgery I–II, Oral Surgery, Otorhinolaryngology, Internal Medicine I.

Minimum and maximum student numbers required to launch the course, and selection criteria:

Based on Neptun system registration: 1/8 of the year group.

How to apply for the course:

Via the Neptun system.

Detailed course syllabus:

Lectures (12 hours)

Block 1:

1. Etiology and epidemiology of tumors, methods of prevention and screening (45 min) – Prof. Dr. Magdolna Dank
2. Imaging diagnostics of tumors (45 min) – Dr. Á. Tárnoki / Dr. D. Tárnoki
3. Histological and molecular pathological diagnosis of tumors – J. Szőke / E. Tóth
4. Basics of oncological surgery. Surgical considerations in tumor board discussions (45 min) – Dr. T. Mersich
5. Oncological surgical reconstruction, palliation, and interventions in the era of technological advancement (45 min) – Dr. Dániel Horányi
6. Clinical drug trials and experimental oncological therapies (45 min) – Dr. habil. Edit Hitre

Block 2:

7. Chemotherapy, biological, and endocrine treatments (45 min) – Dr. habil. Edit Hitre / Dr. Zsófia Küronya
8. Immunological treatments in oncology (45 min) – Dr. habil. Edit Hitre / Dr. Zsófia Küronya

Block 3 – Radiotherapy:

9. Principles of radiotherapy and radiochemotherapy in the treatment of tumors (45 min) – Prof. Dr. Csaba Polgár, Dr. habil. Zoltán Takácsi-Nagy

Block 4:

10. Clinical psycho-oncology – Dr. Péter Kovács

Block 5:

11. Artificial intelligence in oncology (45 min) – Dr. Norbert Mészáros
12. Oncological emergencies / Rehabilitation and follow-up in oncology (45 min) – Prof. Dr. Magdolna Dank, Gyula Szentmártoni

Practical sessions (21 hours)

Block 1:

- Tumor diagnostics I: Cytological, histological, molecular pathology practical (2×45 min)

Block 2:

- Systemic treatment of tumors I: First encounter with the oncology patient, bedside practice (2×45 min)

- Systemic treatment of tumors II: Oncology in practice – outpatient clinic with real patients, small group experience (2×45 min)
- Systemic treatment of tumors III: The role of early palliative care in oncology (1×45 min)
- Systemic treatment from a pharmacist’s perspective (1×45 min)

Block 3 – Radiotherapy:

- Tumor radiotherapy I: Treatment planning practical (2×45 min)
- Tumor radiotherapy II: Practice of external beam radiotherapy (2×45 min)
- Tumor radiotherapy III: Brachytherapy practical (2×45 min)
- Written test (1×45 min)

Block 4:

- Tumor diagnostics II: Imaging diagnostics practical (4×45 min; 1 h mammography/ultrasound, 1 h CT, 1 h MRI, 1 h PET-CT)
- Psycho-oncology practical (2×45 min)

Block 5:

- Tumor surgery (operating theatre practice) (4×45 min)
- Tumor board practice (2×45 min)

Special study requirements for successful completion of the course:

None.

Attendance requirements and options for making up missed classes:

In accordance with the Study and Examination Regulations, attendance is compulsory for at least 90% of the classes.

Methods for assessing acquired knowledge during the semester:

Throughout the course, students’ knowledge is assessed not through formal examinations, but by using modern, interactive tools. At the end of each lecture, a digital Quizlet questionnaire—accessible via QR code—is used to evaluate whether students have mastered the key “take-away” messages of that session. This method enables immediate feedback and helps reinforce the material, while also supporting active participation and deeper understanding.

Requirements for obtaining course credit:

Attendance of at least 90% of all lectures and practical sessions. Attendance is checked at every class via a roll call.

Type of examination:

Oral examination based on a pre-published list of topics, incorporating the results of the written (test) exam taken at the end of the Radiotherapy Day, also based on the pre-published list.

Examination requirements:

Preparation for the examination is supported by a detailed set of 150 questions covering the current, practically relevant knowledge base of the Clinical Oncology course. The questions have been compiled by the lecturers in accordance with the course syllabus, highlighting the key topics and competency areas essential for mastering the subject and developing a comprehensive oncological approach.

Grading policy and assessment method:

- $\geq 90\%$: Excellent
- 80–89%: Good
- 70–79%: Satisfactory
- 60–69%: Pass
- $< 60\%$: Fail

Final grade calculation:

- Active participation during the block (20%)
- Oral examination (80%)

How to register for the exam:

Students must register for the examination exclusively via the unified Neptun study system, in accordance with the regulations set out in the Study and Examination Regulations.

Options for retaking the exam:

In accordance with the Study and Examination Regulations.

Printed, electronic and online notes, textbooks, handouts and literature available for learning the course material (with URLs for online materials):

Preparation for the examination is supported by the lecture and practical materials, which are available for download in electronic form from the department's website. In addition, students have access to the 150-question, fully elaborated question set through the Moodle system.

Course materials:

Oncology and Radiotherapy – University Textbook (Ed. Csaba Polgár):

- Chapter I: General Oncology and Radiotherapy
- Chapter II/11: Oncological Emergencies, Supportive Care, Oncological Rehabilitation and Follow-up

Available:

- in Hungarian, English, and German in electronic format,
- in Hungarian in print (Semmelweis Kiadó, Budapest, 2018).

Signature of the habilitated lecturer (course director):

Signature of the head of the coordinating department:

Submission date: 30 June 2025

OKB opinion:

Comments by the Dean's Office:

Dean's signature:
