Medicinski fakultet u Rijeci

IZVEDBENI NASTAVNI PLAN
2026/2027

Za kolegij

Clinical Oncology

Studij:	**Medical Studies in English (R)** Sveučilišni integrirani prijediplomski i diplomski studij
Katedra:	**Katedra za onkologiju i radioterapiju**
Nositelj kolegija:	**doc. dr. sc. Trivanović Dragan, dr. med.**
Godina studija:	**4**
ECTS:	**2**
Stimulativni ECTS:	**0 (0.00%)**
Strani jezik:	**Mogućnost izvođenja na stranom jeziku**

Podaci o kolegiju:

The course of Clinical Oncology is a mandatory course at the fourth year of Medical school, which consists of 15 lectures as well as 15 practical teachings, 30 in total (2.0 ECTS). Lectures will be held in a lecture hall at the Clinic in the Hospital of Rijeka,while the practical part will be demonstrated at the Department of Oncology and Radiotherapy, Hospital of Rijeka.

The aim of this course is to introduce the medical students to the basics of origin of malignant diseases, main factors that cause it, cures and treatment as well as side effects.Another aim of this course is to incorporate knowledge on how to care about a terminally ill patient, and basic palliative care. Introducing the students to the measures of preventive treatments.

Syllabus: Students are taught about the biology of tumor growth and risk factors that can lead to malignant diseases.We shall be discussing the most common tumors and we will talk about each one as well as the basic therapy for a specific tumor. We shall be looking into the cytostatic treatment, radiotherapy (radical and palliative), biological therapy and hormonal therapy.Side effects of both oncological therapy,chemotherapy as well as radiotherapy will be looked into. We will also talk about palliative care and things that are done regarding palliative care. Prevention programmes in Croatia are also on the agenda.

Expected learning outcomes:

- Explain the molecular genetic basis of cancer

- Explain the way the immune system recognizes and fight malignant cells

- Explain findings on metastasis and angiogenesis

- Indicate the incidence and mortality of cancer in the country and the world

- List the basic risk factors for cancer

- Explain ways to prevent disease

- List and explain the basic therapy metods in oncology : radiotherapy, chemotherapy , biological therapy, immunotherapy, hormone therapy, and less applayed forms of treatments

- List the incidence of the disease and factor of risks , therapy possibilities , prognostic parameteres, prevention methods

Lectures will consist of both, theoretical and practical classes. Estimated course duration is 4 weeks time. After taking the final exam the student will be awarded with 2.0 ECTS points.

Popis obvezne ispitne literature:

DeVita H. et al.: Principles and Practice of Oncology, 11th Edition, Lippincott, Williams & Wilkins, 2018

Popis dopunske literature:

Nastavni plan:

Predavanja popis (s naslovima i pojašnjenjem):

L1. Introductory lecture: definition and field of oncological science

Undertand and learn the basics of the scope of oncology multidisciplinary science as well as ways of recognizing and evaluating an oncology patient and the basics of treatment in oncology.

L2. Biology of cancer I :- molecular-genetic basis of cancer: cell division and cancer

Undertand and learn the molecular-genetic basis of cancer and what knowledge we use for the targeted treatment of malignant tumors. Basic knowledge of cell division and cell metabolism that we use in current and future ways of treating malignant diseases.

L3. Biology of cancer II:- immunological recognition of malignant cells; metastasis and angiogenesis; molecular diagnostics and treatment

Repetition and applying mechanisms of immune recognition of malignant cells, tumor microcollis and relationship with the host. The way of evolution, heterogeneity, metastasis, angiogenesis and other mechanisms in tumor treatment and fight against tumors. Through all these mechanisms, modern technologies are passed through, some of which are already being adopted or followed in the further development of diagnostics and treatment of malignant diseases.

L4. Epidemiology and prevention of malignant tumors; diagnostic methods in oncology

Analysis of the status of malignant diseases in epidemiology and outcomes of the course of occurrence and treatment, prognostic factors in Croatia and in comparison with the European Union and the world.

Risk factors and ways of early recognition. The role of various diagnostic methods in malignant diseases

L5. . Therapeutic methods in oncology I: - surgical and systemic treatment of malignant tumors (principles of cytostatic therapy, hormonal therapy, biotherapy and other types of therapy)

Understanding the multimodal methods of tumor treatment, surgery, cytostatics, hormone therapy and other methods.

L6. Therapy methods in oncology II:- radiotherapy

Upoznavanje sa fizikalnim osnovama zračenja. Upoznavanje sa osnovnim radioterapijskim uređajima.

L7. Therapy methods in oncology III:- immunotherapy, targeted treatment, multidisciplinary teams

Understanding R&D of therapies that are rapidly developing in the world. The ways in which they work, which are further directions for improving the success of the treatment

L8. Malignant breast tumors

Knowledge about risk factors for breast cancer. Histological and phenotypic differences in the behavior and treatment of breast cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L9. Malignant tumors in female and male genitalia

Knowledge about risk factors for genital cancer. Histological and phenotypic differences in the behavior and treatment of cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L10. Malignant tumors of respiratory system and of mediastinum

Knowledge about risk factors for respiratory system cancer. Histological and phenotypic differences in the behavior and treatment of cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L11. Malignant tumors of digestive and urinary system

Knowledge about risk factors for tumors of digestive and urinary system. Histological and phenotypic differences in the behavior and treatment of cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L12. Malignant tumors of the head and neck: bone tumors and soft tissue tumors

Knowledge about risk factors for tumors of the head and neck: bone tumors and soft tissue tumors. Histological and

phenotypic differences in the behavior and treatment of cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L13. Malignant tumors of hematopoietic, lymphatic and endocrine systems

Knowledge about risk factors for tumors of the hematopoietic, lymphatic and endocrine systems. Histological and phenotypic differences in the behavior and treatment of cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L14. Malignant skin tumors and of central nervous system

Knowledge about risk factors for skin tumors and of central nervous system. Histological and phenotypic differences in the behavior and treatment of cancer, multimodal principles of treatment and monitoring. Primary and secondary prevention

L15. Supportive and symptomatic treatment; palliative medicine; hospices; cancer and public health institution

Introducing students to patients and the importance of solving the symptoms that the patient feels, familiarization with a multinodal approach to treatment for palliative purposes. Functioning of pain clinics, hospices and home treatment

Vježbe popis (s naslovima i pojašnjenjem):

P1.Introductory lesson:approach to an oncological patient, anamnesis and status

Mastering the approach to the oncological patient, taking of the anamnesis and status.

P2. Radiation devices, administration of cytostatics and biological therapy

Introduction to the radiation devices and their effect on the tissue. Side effects of the radiation and the recovery. Introduction to cytostatic therapy at the departments as well as at the day clinic. Administration of cytostatics, side effects and recovery. How to take care of febrile neutropenia. Introduction to the biological therapy, administration, side effects and recovery.

P3. Breast cancer

Introducing students to breast-conserving and radical surgery performed on female patients. Anamnesis and status. Plan of the radiotherapy. Side effects and remedy of radiation. Administration of cytostatics. Premedication. Side effects and recovery of cytostatics. Exercise of rights to a wig or breast prosthetics.Lymph drainage.

P4.Malignant tumors of the female reproductive system

Cases of female patients with vaginal, vulva, uterus and ovaries tumors. Anamnesis and status.Brachytherapy-simulation of the application of radioactive caesium. Side effects and recovery.

P5. Prostate cancers

Cases of patients with prostate tumors, localized illness and with metastazis. Anamnesis and status.Planning of conformal radiotherapy. Hormonal radiotherapy. Application of LHRH agonist. Radiation of bone metastasis. Cytostatic therapy in curing the prostate cancer.

P6. Intratoracal tumors

Cases of patients with intratoracal tumors: lungs tumors and mesotheliomas. Anamnesis and status. Planning of radical radiotherapy.Cytostatic and biological therapy. Getting the patient ready for the administration of cytostatics. Syndrome of vena cava and Pancoast syndrome, treated as emergencies in oncology.

P7.Digestive system tumors

Cases of patients with esophagus, stomach, pancreas and colorectal tumors. Radiation side effects and recovery. Cytostatic therapy for aforementioned tumors. Cytostatic side effects and recovery. Application of biological therapy. Anus praeter.

P8.Urinary bladder and kidney tumors

Cases of patients with urinary bladder cancer and malignant kidneys tumors. Anamneses and status.Planning of radiotherapy concerning the urinary bladder cancer, immunotherapy. Biological therapy and its side effects. Recovery.

Urostoma, nefrostoma.

P9.Oral cavity,pharynx and larynx cancers

Cases of patients with oral cavity, pharynx and larynx tumors. Anamnesis and status.Planning of concomitant chemoradiotherapy for the aforementioned tumors. Side effects and recovery from radiation and cytostatic therapy.

P10.Malignant tumors of central nervous system and paranasal sinuses

Cases of patients with malignant tumors of the central nervous system and paranasal sinuses. Anamnesis and status. Planning of radiotherapy for the glioblastoma and maxilla cancer. Therapy of the brain edema. Cytostatic therapy. Spinal cord compression. Supportive methods.

P11. Testicular tumors

Cases of patients with testicular tumor of seminoma and nonseminoma type. Anamnesis and status.Radiotherapy and cytostatic therapy. Side effects and recovery. Cryopreservation of sperm.

P12.Malignant skin tumors

Cases of basal cell carcinoma and planocellular skin carcinoma. Anamnesis and status.Radiotherapy. Treatment of radiodermatitis. Malignant melanoma. Treatment with special attention to biological therapy.

P13.Bone and soft tissue tumors

Cases of bone and soft tissue tumors.Anamnesis and status. Treatment of sarcoma.

P14. Hematological malignant tumors

Cases of hematological malignant diseases. Anamnesis and st atus, Radiation of the lymphoma and plasmacytoma.

P15. Palliative treatment

Cases of patients undertaking palliative treatment. Palliative patients' diet. Gastrostomy PEG. Analgesic therapy. Pain clinic. Evacuation of ascites and pleural effusion.Palliative radiotherapy and chemotherapy.Teams for palliative care and hospices.

Obveze studenata:

Students must attend lessons regularly and be actively involved in all the aspects of the course.During lessons and practical part, they must be ready at all times to answer questions. Therefore students must read designated texts before class and be prepared to participate in the lessons. The students must take two exames (2 half exames and the final exam).Students can be absent from the maximum of 30% of the classes, exclusively due to health reasons confirmed by a GP. Being present at classes is mandatory.The compensation of the lost classes is possible only with the agreement by the lecturer. In case the student is absent for more than 30% of the classes, it shall lose the privilege to attend further classes and to take the final exam. In accordance with that, the student has gained 0 ECTS points and is graded F.

Ispit (način polaganja ispita, opis pisanog/usmenog/praktičnog dijela ispita, način bodovanja, kriterij ocjenjivanja):

Grading criteria is carried out according to valid Regulations of studies University of Rijeka, and according to Regulations of grading students at the Faculty of Medicine in Rijeka (adopted by the Faculty committee of Medicine in Rijeka).

Final grade- written exam (max 50% of the final grade) + final oral exam (max of 50% of the final grade)

Written examination consists of 50 questions and can amount to max 50% of the final grade. Due to the results of the written part, the student qualifies to take the final oral exam. Students that get >25%, in the written part (25 or more correctly answered questions), get the right to take the final oral examination.

Final exam is oral and the student can get a maximum of 50% of the final grade, and depending on the satisfactory results of the exam it gets 25 or more percent according to the final grade .

I. 45-50% excellent (5)- (A)
II. 35-44 % very good (4)- (B)
III. 30-34% good (3)- (C)
IV. 25-29% sufficient (2)- (D)

Final grade: written examination + final oral exam

I. 90-100% 5 A Excellent
II. 75-89,9% 4 B Very good
III. 60-74,9% 3 C Good
IV. 50-59,9% 2 D Sufficient
V. 0-49,9% 1 F Insufficient

Ostale napomene (vezane uz kolegij) važne za studente:

Classes, as well as all the other information about the course, such as exam dates are to be found on line, Department of Oncology and Radiotherapy

SATNICA IZVOĐENJA NASTAVE 2026/2027

Clinical Oncology

Predavanja (mjesto i vrijeme / grupa)	**Vježbe** (mjesto i vrijeme / grupa)
04.05.2027	

L1. Introductory lecture: definition and field of oncological science:
• P11 - KBC RI (15:00 - 18:00) [2157]
  ○ CO
 	
L2. Biology of cancer I :- molecular-genetic basis of cancer: cell division and cancer:
• P11 - KBC RI (15:00 - 18:00) [2157]
  ○ CO
 	
L3. Biology of cancer II:- immunological recognition of malignant cells; metastasis and angiogenesis; molecular diagnostics and treatment:
• P11 - KBC RI (15:00 - 18:00) [2157]
  ○ CO
	P1.Introductory lesson:approach to an oncological patient, anamnesis and status:
	• Klinika za onkologiju (10:00 - 13:00) [2157]
	  ○ CO - A 2
	  ○ CO - A 3
	  ○ CO - A 1
	
	P2. Radiation devices, administration of cytostatics and biological therapy:
	• Klinika za onkologiju (10:00 - 13:00) [2157]
	  ○ CO - A 2
	  ○ CO - A 3
	  ○ CO - A 2
	  ○ CO - A 3
	  ○ CO - A 1
	
	P3. Breast cancer:
	• Klinika za onkologiju (10:00 - 13:00) [2157]
	  ○ CO - A 2
	  ○ CO - A 3
	  ○ CO - A 2
	  ○ CO - A 3
	  ○ CO - A 2
	  ○ CO - A 3
	  ○ CO - A 1

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11.05.2027	

L4. Epidemiology and prevention of malignant tumors; diagnostic methods in oncology:

- P10 - INFEKTOLOGIJA (15:00 - 18:00) [2157]
  - CO

L5. . Therapeutic methods in oncology I: - surgical and systemic treatment of malignant tumors (principles of cytostatic therapy, hormonal therapy, biotherapy and other types of therapy):

- P10 - INFEKTOLOGIJA (15:00 - 18:00) [2157]
  - CO

L6. Therapy methods in oncology II:- radiotherapy:

- P10 - INFEKTOLOGIJA (15:00 - 18:00) [2157]
  - CO

P4.Malignant tumors of the female reproductive system:

- Klinika za onkologiju (10:00 - 13:00) [2157] [2286]
  - CO - A 1
  - CO - A 2
  - CO - A 3

P5. Prostate cancers:

- Klinika za onkologiju (10:00 - 13:00) [2157] [2286]
  - CO - A 1
  - CO - A 2
  - CO - A 1
  - CO - A 2
  - CO - A 3

P6. Intratoracal tumors:

- Klinika za onkologiju (10:00 - 13:00) [2157] [2286]
  - CO - A 1
  - CO - A 2
  - CO - A 1
  - CO - A 2
  - CO - A 1
  - CO - A 2
  - CO - A 3

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18.05.2027

L7. Therapy methods in oncology III:- immunotherapy, targeted treatment, multidisciplinary teams:

- P10 - INFEKTOLOGIJA (15:00 - 18:00) [2157]
  - CO

L8. Malignant breast tumors:

- P10 - INFEKTOLOGIJA (15:00 - 18:00) [2157]
  - CO

L9. Malignant tumors in female and male genitalia:

- P10 - INFEKTOLOGIJA (15:00 - 18:00) [2157]
  - CO

P7.Digestive system tumors:

- Klinika za onkologiju (10:00 - 13:00) [2157]
  - CO - A 2
  - CO - A 3
  - CO - A 1

P8.Urinary bladder and kidney tumors:

- Klinika za onkologiju (10:00 - 13:00) [2157]
  - CO - A 2
  - CO - A 3
  - CO - A 2
  - CO - A 3
  - CO - A 1

P9.Oral cavity,pharynx and larynx cancers:

- Klinika za onkologiju (10:00 - 13:00) [2157]
  - CO - A 2
  - CO - A 3
  - CO - A 2
  - CO - A 3
  - CO - A 2
  - CO - A 3
  - CO - A 1

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25.05.2027

L10. Malignant tumors of respiratory system and of mediastinum: • P11 - KBC RI (15:00 - 18:00) [2157] ◦ CO L11. Malignant tumors of digestive and urinary system: • P11 - KBC RI (15:00 - 18:00) [2157] ◦ CO L12. Malignant tumors of the head and neck: bone tumors and soft tissue tumors: • P11 - KBC RI (15:00 - 18:00) [2157] ◦ CO	P10.Malignant tumors of central nervous system and paranasal sinuses: • Klinika za onkologiju (10:00 - 13:00) [2157] ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 1 P11. Testicular tumors: • Klinika za onkologiju (10:00 - 13:00) [2157] ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 1 P12.Malignant skin tumors: • Klinika za onkologiju (10:00 - 13:00) [2157] ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 1
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01.06.2027	
L13. Malignant tumors of hematopoietic, lymphatic and endocrine systems: • P11 - KBC RI (15:00 - 18:00) [2157] ◦ CO L14. Malignant skin tumors and of central nervous system: • P11 - KBC RI (15:00 - 18:00) [2157] ◦ CO L15. Supportive and symptomatic treatment; palliative medicine; hospices; cancer and public health institution: • P11 - KBC RI (15:00 - 18:00) [2157] ◦ CO	P13.Bone and soft tissue tumors: • Klinika za onkologiju (10:00 - 13:00) [2157] ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 1 P14. Hematological malignant tumors: • Klinika za onkologiju (10:00 - 13:00) [2157] ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 1 P15. Palliative treatment: • Klinika za onkologiju (10:00 - 13:00) [2157] ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 3 ◦ CO - A 2 ◦ CO - A 1
doc. dr. sc. Trivanović Dragan, dr. med. [2157]	

Popis predavanja, seminara i vježbi:

PREDAVANJA (TEMA)	Broj sati	Mjesto održavanja
L1. Introductory lecture: definition and field of oncological science	1	P11 - KBC RI

L2. Biology of cancer I :- molecular-genetic basis of cancer: cell division and cancer	1	P11 - KBC RI
L3. Biology of cancer II:- immunological recognition of malignant cells; metastasis and angiogenesis; molecular diagnostics and treatment	1	P11 - KBC RI
L4. Epidemiology and prevention of malignant tumors; diagnostic methods in oncology	1	P10 - INFEKTOLOGIJA
L5. . Therapeutic methods in oncology I: - surgical and systemic treatment of malignant tumors (principles of cytostatic therapy, hormonal therapy, biotherapy and other types of therapy)	1	P10 - INFEKTOLOGIJA
L6. Therapy methods in oncology II:- radiotherapy	1	P10 - INFEKTOLOGIJA
L7. Therapy methods in oncology III:- immunotherapy, targeted treatment, multidisciplinary teams	1	P10 - INFEKTOLOGIJA
L8. Malignant breast tumors	1	P10 - INFEKTOLOGIJA
L9. Malignant tumors in female and male genitalia	1	P10 - INFEKTOLOGIJA
L10. Malignant tumors of respiratory system and of mediastinum	1	P11 - KBC RI
L11. Malignant tumors of digestive and urinary system	1	P11 - KBC RI
L12. Malignant tumors of the head and neck: bone tumors and soft tissue tumors	1	P11 - KBC RI
L13. Malignant tumors of hematopoietic, lymphatic and endocrine systems	1	P11 - KBC RI
L14. Malignant skin tumors and of central nervous system	1	P11 - KBC RI
L15. Supportive and symptomatic treatment; palliative medicine; hospices; cancer and public health institution	1	P11 - KBC RI

VJEŽBE (TEMA)	Broj sati	Mjesto održavanja
P1.Introductory lesson:approach to an oncological patient, anamnesis and status	1	Klinika za onkologiju
P2. Radiation devices, administration of cytostatics and biological therapy	1	Klinika za onkologiju
P3. Breast cancer	1	Klinika za onkologiju
P4.Malignant tumors of the female reproductive system	1	Klinika za onkologiju
P5. Prostate cancers	1	Klinika za onkologiju
P6. Intratoracal tumors	1	Klinika za onkologiju
P7.Digestive system tumors	1	Klinika za onkologiju
P8.Urinary bladder and kidney tumors	1	Klinika za onkologiju
P9.Oral cavity,pharynx and larynx cancers	1	Klinika za onkologiju
P10.Malignant tumors of central nervous system and paranasal sinuses	1	Klinika za onkologiju
P11. Testicular tumors	1	Klinika za onkologiju
P12.Malignant skin tumors	1	Klinika za onkologiju
P13.Bone and soft tissue tumors	1	Klinika za onkologiju
P14. Hematological malignant tumors	1	Klinika za onkologiju
P15. Palliative treatment	1	Klinika za onkologiju

ISPITNI TERMINI (završni ispit):

1.	14.06.2027.
2.	05.07.2027.
3.	09.09.2027.