

<b>Name of the course</b>	<b>Clinical oncology</b>			<b>Code</b>	MSE506
<b>Type of study program:</b>	Integrated university study program, Medicine			<b>Year of study:</b>	5
<b>Credits (ECTS):</b>	2.0	<b>Semester:</b>	IX	<b>Number of hours per semester (L+S+E)</b>	50 5+10+35
<b>Status of the course:</b>	obligatory	<b>Preconditions:</b>	According to the Rulebook	<b>Comparative conditions:</b>	/
<b>Access to course:</b>	Fifth year students			<b>Hours of instructions:</b>	According to schedule
<b>Course teacher:</b>	Assistant Prof. Inga Marijanović, MD, PhD				
<b>Consultations:</b>	As agreed with students				
<b>E-mail address and phone number:</b>	inga.marijanovic71@gmail.com				
<b>Associate teachers</b>	Assistant Prof. Ivana Tica Sedlar, MD, PhD Josipa Jović Zlatović, MD Teo Buhovac, MD Marija Kraljević, MD Dragana Miletić, MD Ana Parić, MD Krešimir Tomić, MD				
<b>Consultations:</b>	As agreed with students				
<b>The aims of the course:</b>	<p>To teach students the basics of tumor etiology, general and specific diagnostic and therapeutic procedures with an emphasis on modern treatment of solid tumors. To train students to recognize oncological emergencies, as well as side effects of oncology therapy.</p> <p>Achieve students` understanding of the importance of a holistic approach to oncology patient care, as well as the role of the family physician in the care of these patients.</p>				
<b>Learning outcomes (general and specific competences):</b>	<p>Student:</p> <p>Describes and explains the basic concepts of biology, etiology and epidemiology of cancer.</p> <p>Lists and describes the types of primary prevention, secondary prevention and screening methods for certain malignant diseases.</p> <p>Describes a multidisciplinary approach to cancer treatment and types of diagnostics (molecular and laboratory, pathological and cytological).</p> <p>Describes the psychosocial approach to the patient with a malignant disease and the role of the family medicine doctor in the comprehensive approach to the oncology patient.</p> <p>Analyzes and explains the differences between adjuvant treatment, treatment of metastatic disease, treatment of relapse and patients in the terminal phase and explains the basics of radiotherapy, chemotherapy, hormone therapy, immunotherapy, targeted therapy and other forms of oncology therapy and lists their forms, methods of application, goals and unwanted effects.</p> <p>Lists and classifies the most common side effects of oncology treatment, including emergencies caused by oncology treatment.</p> <p>Lists and describes the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis in cancer of various organ sites (breast cancer, lung cancer, skin cancer - with special reference to melanomas, tumors of the central nervous system, tumors of the gastrointestinal system, urogenital tumors, gynecological tumors, head and neck tumors).</p>				
<b>Course content (Syllabus):</b>	<p>Clinical Oncology course consists of lectures, seminars and exercises conducted at School of Medicine Mostar and Oncology Department of University Hospital Mostar.</p> <p>L1 Introduction to oncology. Tumor biology</p> <p>L2 Tumor etiology. Tumor epidemiology. Chemical, physical and biological carcinogenesis.</p> <p>L3 Prevention and early diagnosis of malignant tumors. Psychosocial aspects of oncology patients.</p> <p>L4 Cytostatic therapy. Radiotherapy. Side effects of oncological treatment.</p>				

	<p>L5 Hormonal therapy. Immunotherapy. Other forms of therapy: targeted therapy, gene therapy, photodynamic therapy, hyperthermia, antiangiogenic therapy.</p> <p>S1 Breast cancer  S2 Lung cancer  S3 Skin cancer. Melanoma.  S4 Tumors of central nervous system  S5 Gastrointestinal tumors (Part I)  S6 Head and neck tumors  S7 Urogenital tumors (Part I)  S8 Gastrointestinal tumors (Part II)  S9 Gynecological tumors  S10 Urogenital tumors (Part II)</p> <p>E1-E35 Anamnesis and examination in oncology. Approach to the oncology patient depending on tumor location and diagnosis. Work in the ward and clinic. Work in a day hospital (types of oncology therapy, methods of application). Work in the radiotherapy department (process of patient preparation for radiotherapy; CT simulation, contouring of tumor volume and organs at risk, preparation of radiation plan and radiotherapy process, brachyradiotherapy process). Participation in multidisciplinary teams and oncological councils. Psychosocial and nutritional approach to oncology patients. Management of emergency conditions in oncology.</p>			
<b>Format of instruction (mark in bold)</b>	<b>Lectures</b>	<b>Exercises</b>	<b>Seminars</b>	Independent assignments
	<b>Consultations</b>	Work with mentor	Field work	Other
<b>Student responsibilities</b>	Teaching is conducted in the form of lectures, seminars and exercises during the course in which the teacher explains the topic and encourages active and critical thinking of the students and participation in the discussion. Teachers discuss specifics with students and problems within each topic. Attendance at classes is recorded for every student. At the end of the class, there is a written final exam.			
<b>Screening student work (mark in bold)</b>	<b>Class attendance</b>	<b>Class participations</b>	Seminar essay	Practical training
	Oral exam	<b>Written exam</b>	Continuous assessment	Essay
<b>Detailed evaluation within a European system of points</b>				
<b>STUDENTS RESPONSIBILITIES</b>	<b>HOURS</b>	<b>PROPORTIONS OF ECTS CREDITS</b>	<b>PROPORTIONS OF GRADE</b>	
Class attendance and participations	50	1.6	0%	
Written exam	10	0.4	100%	
Total	60	2	100%	
Further clarification: <b>Final score:</b> The final assessment is carried out according to the Regulation of Studies of the University of Mostar and applies to all study groups. According to the Regulations on studying final grade is obtained as follows: A = 91-100% 5 B = 79 to 90% 4 C = 67 to 78% 3 D = 55 to 66% 2 F = 0 to 54% 1				
<b>Required literature:</b>	<ol style="list-style-type: none"> <li>Clinical Oncology, editors Anthony J Neal and Peter J Hoskin, 4th edition; 2012. by Taylor and Francis Group</li> <li>Written materials provided by teachers</li> </ol>			
<b>Optional literature:</b>	<ol style="list-style-type: none"> <li>Cancer: Principles and Practice of Oncology, editors DeVita VT, Lawrence TS, Rosenberg SA, 11th edition, 2018. by Lippincott Williams and Wilkins;</li> <li>Perez and Brady's Principles and Practice of Radiation Oncology, editors Halperin EC, Perez CA, Brady LW, Waser DE, 7th edition, 2018. by Lippincott Williams and Wilkins</li> </ol>			

	3. <a href="http://www.nccn.org">www.nccn.org</a> 4. <a href="http://www.esmo.org">www.esmo.org</a>
<b>Additional information about the course</b>	Teaching in Clinical Oncology consists of 50 hours (5 hours of lectures, 10 hours of seminars and 35 hours of exercises). Teaching is conducted in the form of lectures, seminars and exercises during which the teacher explains the topic and encourages active and critical thinking of the students and participation in the discussion. Teachers and students discuss the specifics and problems within each topic covered. At the seminars, students actively participate and critically discuss the thematic unit for which they should prepare in advance through the preparation of a seminar paper, in teams of several students, in the form of a structured PowerPoint presentation. During the exercises, students, with the help of assistants, apply the acquired knowledge practically through work in the clinic, ward, radiotherapy department and participation in multidisciplinary teams and oncology councils. Attendance records are made for each student. At the end of the class, there is a mandatory written final exam with multiple choice of answers (one of the five offered answers is always correct)

Annexes: calendar classes

<b>The number of teaching units</b>	<b>TOPICS AND LITERATURE</b>
<b>I.</b>	Title: Introduction. Tumor biology. Short description: Familiarity with oncology, basic concepts and key features of cancer. The genetic basis of cancer. Oncogenes. Tumor suppressor genes. Tumorous angiogenesis, invasion and engraftment. The immune system and cancer. Literature: mandatory and supplementary
<b>II.</b>	Title: Tumor etiology. Tumor epidemiology. Short description: Familiarity with chemical, physical and biological carcinogenesis. Getting to know the basic parameters of descriptive epidemiology, the movement of cancer in the world and the most common types. Literature: mandatory and supplementary
<b>III.</b>	Title: Prevention and early diagnosis of malignant tumors. Psychosocial aspects of oncology patients. Short description: Familiarity with primary prevention, chemoprophylaxis, surgery prophylaxis, secondary prevention, screening methods for certain malignant tumors. Mental deviations in patients with malignant disease. Emotional support. The role of the doctor. Adjuvant treatment. Treatment of metastatic disease. Treatment of disease recurrence. A patient in the terminal phase. Literature: mandatory and supplementary
<b>IV.</b>	Title: Cytostatic therapy. Radiotherapy. Side effects of oncological treatment. Short description: Getting to know the physical and radiobiological basics of radiotherapy, forms of radiotherapy, radiotherapy devices, goals and unwanted effects of radiotherapy. Getting familiar with the kinetics of tumor cells and chemotherapy, the division of cytostatics, the method of application of cytostatics and the unwanted effects of chemotherapy. Familiarity with the most common side effects of oncological treatment, including emergency conditions caused by oncological treatment. Literature: mandatory and supplementary
<b>V.</b>	Title: Hormonal therapy. Immunotherapy. Other forms of therapy: targeted therapy, gene therapy, photodynamic therapy, hyperthermia, antiangiogenic therapy. Short description: Get to know the types of endocrine therapy (especially for breast and prostate cancer), the types and application of immunotherapy, the types and ways of action of targeted therapy, and other forms of oncology therapy. Literature: mandatory and supplementary
<b>VI.</b>	Title: Breast cancer Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of breast cancer. Literature: mandatory and supplementary
<b>VII.</b>	Title: Lung cancer

	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of lung cancer.
	Literature: mandatory and supplementary
<b>VIII.</b>	Title: Skin cancer. Melanoma.
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of skin cancers, especially melanoma.
	Literature: mandatory and supplementary
<b>IX.</b>	Title: Brain tumors.
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of brain tumors.
	Literature: mandatory and supplementary
<b>X.</b>	Title: Gastrointestinal tumors (Part I)
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of gastrointestinal tumors (Part I).
	Literature: mandatory and supplementary
<b>XI.</b>	Title: Head and neck tumors
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of head and neck tumors.
	Literature: mandatory and supplementary
<b>XII.</b>	Title: Urogenital tumors (Part I)
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of urogenital tumors (Part I).
	Literature: mandatory and supplementary
<b>XIII.</b>	Title: Gastrointestinal tumors (Part II)
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of GI tumors (Part II).
	Literature: mandatory and supplementary
<b>XIV.</b>	Title: Gynecological tumors
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of gynecological tumors
	Literature: mandatory and supplementary
<b>XV.</b>	Title: Urogenital tumors (Part II).
	Short description: Get to know the etiology and epidemiology, methods of diagnosis, types of therapy, monitoring and prognosis of urogenital tumors (Part II).
	Literature: mandatory and supplementary