Ministry of health of Ukraine
Poltava State Medical University

Department of oncology and radiology with radiation medicine

SYLLABUS
ONCOLOGY AND RADIATION MEDICINE

level of higher education	second (master's) level of higher education
branch of knowledge	22 "Health"
specialty	222 "Medicine"
educational qualification	master of medicine
professional qualification	doctor
educational and professional program	"Medicine"
form of education	daily
course and semester of study of the discipline	V course IX, X semester

Module 1. Oncology

Poltava - 2024

INFORMATION ABOUT TEACHERS WHO TEACH AN ACADEMIC DISCIPLINE

Surname, name, patronymic of the lecturer (lecturers), scientific degree, academic title	1. Voronova Liliia, assistant. 2. Mukovoz Oksana, associate professor
Profile of the lecturer (lecturers)	https://oncology.pdmu.edu.ua/team
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Department page at the website of PSMU	https://oncology.pdmu.edu.ua/

MAIN CHARACTERISTICS OF THE COURSE

The scope of the discipline

Number of credits / hours - 3/90, of which:

Lectures (hours) - 8

Practical (hours) - 40

Independent work (hours) - 42

Type of control: final modular control

Signs of academic discipline

The nature of the discipline is normative

Year of study - 5

Semester - 9; 10

Course policy

Teaching at the Department of Oncology and Radiology with Radiation Medicine is determined by a system of requirements that the teacher imposes on the student in the study of the discipline and is based on the principles of academic integrity.

Policy on adherence to the principles of academic integrity of higher education students:

- independent performance of educational tasks of current control without the use of external sources of information (for example, except in cases permitted by the teacher, preparation of practical tasks during the lesson);
- write-offs during knowledge control are prohibited (including with the use of mobile devices);
- independent performance of individual tasks and correct registration of references to sources of information in case of borrowing of ideas, statements, information.

Policy on adherence to the principles and norms of ethics and deontology by higher education students:

- actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;
- compliance with the rules of internal regulations of the department, to be tolerant, friendly and balanced in communication with graduate students and teachers, medical staff of health care institutions;
- awareness of the importance of examples of human behavior in accordance with the norms of academic integrity and medical ethics.

Attendance policy for higher education students:

- Attendance at all classes: lectures, practical, PMK is mandatory in order to adequately current and final assessment of knowledge. Also, late classes are not allowed.

Deadline policy and completion by higher education students:

- working off of missed classes takes place in accordance with the Regulations of electronic working off by students of missed classes and unsatisfactory grades approved by the educational institution;
- works submitted by the applicant of higher education with violation of the term without valid reasons are evaluated at a lower grade (75% of the maximum, for example, thematic individual work);
- re-drafting of the PMC in order to increase the assessment is not allowed, except in situations of non-compliance with the discipline program or failure to appear for the final control.

Teaching at the department is in accordance with current legislation of Ukraine and regulations.

When organizing the educational process in PSMU teachers and students act in accordance with:

Regulations on the organization of the educational process in the Poltava State Medical University

Regulations on the academic integrity of applicants for higher education and employees of the Poltava State Medical University

Rules of procedure for students of the Poltava State Medical University

Regulations on the organization and methods of assessment of educational activities of higher education students in the Poltava State Medical University

Regulations on the organization of independent work of students at the Poltava State Medical University You can get acquainted with the above documents in the section of the department of scientific and pedagogical work and organization of the educational and scientific process Normative documents **https://www.pdmu.edu.ua/n-process/department-npr/two-level/opp/med/osvitno-profesiyna-programa-medicina**

Course description (abstract) module 1. Oncology

Oncology is a study of tumors, prevention of their growth and treatment, it is a fully formed science that studies the general patterns of occurrence and development of malignant tumors, methods of early and timely diagnosis of tumors and treatment of malignant tumors. Clinical oncology has a generally accepted classification of tumors (TNM), created a morphological nomenclature of tumors. Surgical, radiation, and medical methods are used to treat cancer patients, and restorative treatment is being developed, and the principles of symptomatic therapy for incrabel patients have been developed. "Standards of diagnosis and treatment of cancer patients" are being introduced in the work of oncological institutions.

Mastering the basics of oncology contributes to the education of special oncological vigilance among physicians of all specialties, who in their practice are the first to deal with cancer patients.

Prerequisites and postrequisites for the study of module 1. Oncology (interdisciplinary links)

The subject of study of module 3. Oncology is cancer.

The study of oncology is based on issues of theoretical and general oncology, which are taught at the Department of Pathological Anatomy, Pathological Physiology, General Surgery, is integrated with these disciplines and later with clinical disciplines. Topics of clinical oncology are studied in part at clinical departments of the relevant profile, their study ends at the Department of Oncology. Students get acquainted with the organization of the oncology service at the departments of social hygiene and oncology.

After completing the study of module 1. Oncology, the acquired knowledge, skills and abilities will be required in the study of obstetrics, pediatrics, internal medicine.

The purpose and objectives of the discipline:

The purpose of studying module 1. Oncology is to master the systematic knowledge of the structure of the human body in different areas and the formation of practical skills of topographic and anatomical performance of operational accesses and techniques; skills of care for cancer patients, basics of clinical examination of cancer patients; acquaintance with the principles of special methods of treatment and semiotics of the main types of oncological diseases; reasonable formation of clinical diagnosis and determination of further treatment tactics, assimilation of theoretical and practical knowledge of etiology, pathogenesis, typical and atypical clinical manifestations, diagnostic methods, conservative and operative treatment, rehabilitation of oncological pathology within the limits of training of physicians taking into account specialties of specialty 222 "Medicine".

The main objectives of the study of module 1. Oncology are:

- To know the basic principles of the organization of oncological care to the population of Ukraine.
- Analyze the results of examination of dental patients with cancer.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination in oncology.

- Apply methods of statistical analysis of medical and biological data.
- Examine a patient with cancer.
- Identify the most common clinical symptoms and syndromes in the clinic of cancer.
- To determine the tactics of the patient with the most common cancers and their complications.
- To know the basic principles of the organization of oncological care to the population of Ukraine.
- Demonstrate the principles of oncological deontology.

Competences and learning outcomes, the formation of which is facilitated by the discipline (integral, general, special) in accordance with the OPP

 integral: Ability to solve complex problems and problems in the field of health care in the specialty "Medicine" in professional activities or in the learning process, which involves research and / or innovation and is characterized by uncertainty of conditions and requirements.

 general:

1. Ability to abstract thinking, analysis and synthesis; ability to learn and be modernly trained.
2. Knowledge and understanding of the subject area and understanding of the profession.
3. Ability to apply knowledge in practical situations.
4. Ability to communicate in the state language both orally and in writing. Ability to communicate in another language.
5. Skills in the use of information and communication technologies.
6. Ability to search, process and analyze information from various sources.
7. Ability to adapt and act in a new situation; ability to work autonomously.
8. Ability to identify, pose and solve problems.
9. Ability to choose a communication strategy.
10. Ability to work in a team.
11. Interpersonal skills.
12. Ability to act on the basis of ethical considerations (motives).
13. Skills for safe activities.

14. Ability to evaluate and ensure the quality of work performed.

15. The desire to preserve the environment.

16. Ability to act socially responsible and civic conscious.

 special:

1. Collection of medical information about the patient's condition.

2. Evaluation of laboratory and instrumental research results.

3. Diagnosis of emergencies.

4. Determining the tactics of the dental patient with somatic pathology.

5. Performing medical and dental manipulations.

6. Organization of medical and evacuation measures.

7. Defining tactics and providing emergency medical care.

8. Keeping medical records.

9. Processing of state, social and medical information.

Program learning outcomes according to OPP

upon completion of the study, students must

know: - tactics of examination and management of the patient in case of suspicion of a malignant tumor;

- tactics of examination and management of patients with the most common cancers;

- rules for keeping medical records in the oncology clinic;

- principles of oncological deontology.

be able to: - Patient interviewing skills;

- Ability to determine the required list of laboratory and instrumental studies and evaluate their results;

- Ability to establish a preliminary and clinical diagnosis of the disease;

- Ability to determine the required mode of work and rest in the treatment of diseases;

- Ability to determine the nature of nutrition in the treatment of diseases;

- Ability to determine the principles and nature of treatment of diseases;

- Ability to diagnose emergencies;

- Ability to determine the tactics of emergency medical care;

- Skills in providing emergency medical care;

- Ability to carry out medical and evacuation measures;

- Skills to perform medical manipulations;

- Ability to determine the tactics of physiological pregnancy, physiological childbirth and the postpartum period. Family planning and contraceptive counseling skills;

- Ability to keep medical records.

Thematic plan of lectures (by modules) with the indication of the basic questions considered at lectures

№ p/p	Name topics	Number hours
1	**Cancer incidence, structure, accounting and dynamics.** Epidemiology. The main causes of cancer, carcinogenesis. Classification of oncological diseases, TNM system. Organization and tasks of the oncology service. Anti-cancer struggle, medical examination of cancer patients. Palliative care for cancer patients. **Skin cancer. Melanoma.** Epidemiology. Pathogenesis. Clinic. Classification, diagnosis. Modern principles and methods of surgical, combined and complex treatment**.**	2
2	**Breast cancer.** Epidemiology. Pathogenesis. Clinic. Classification, diagnosis. Modern principles and methods of surgical, combined and complex treatment. **Stomach cancer.** Epidemiology. Pathogenesis, clinical manifestations, the dependence of the clinic on the location and prevalence of the tumor process. Screening methods. Classification of tumors. Modern principles and methods of surgical, combined and complex treatment.	2
3	**Cancer of the colon and rectum.** Epidemiology. Pathogenesis, clinical manifestations, the dependence of the clinic on the location and prevalence of the tumor process. Screening methods. Classification of tumors. Modern principles and methods of surgical, combined and complex treatment. **Malignant neoplasms of the female reproductive system.** cancer of the body and cervix, ovarian cancer. Epidemiology. Pathogenesis. The main clinical manifestations. Clinic. Classification and diagnosis of tumors.	2
4	**Respiratory tumors.** Epidemiology. Pathogenesis. Clinic. Classification, diagnosis. Modern principles and methods of surgical, combined and complex treatment. **Lymphogranulomatosis. Non-Hodgkin's lymphoma.** Epidemiology. Pathogenesis. Clinic. Classification, diagnosis.	2

	Modern principles and methods of complex treatment.	
	Together	**8**

Thematic plan of seminars by modules and content modules with the indication of the basic questions considered at a seminar
Not provided.

Thematic plan of practical classes by modules and content modules with indication of the main issues considered in the practical lesson

№ p/p	Name topics	Number hours
Module 1. Oncology		
1	**Organization of oncology care. Methods of examination and treatment.** Cancer incidence, structure, accounting and dynamics. Epidemiology. The main causes of cancer, carcinogenesis. Classification of oncological diseases, TNM system. Organization and tasks of the oncology service. Anti-cancer struggle, medical examination of cancer patients. Palliative care for cancer patients.	2
2	**Cancer loses.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes.	2
3	**Cancer of the oral mucosa, tongue.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, the main causes, epidemiology, precancerous diseases; clinic, methods of diagnosis and early diagnosis, methods of morphological diagnosis (puncture and incisional biopsy); principles of treatment; long-term treatment results.	2
4	**Esophageal cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes. Finger examination of the rectum .	2
5	**Stomach cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes. Finger examination of the rectum.	2
6	**Pancreatic cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes. Finger examination of the rectum.	2
7	**Colon cancer.** Clinic. Diagnosis. Treatment. Collection of complaints,	2

	anamnesis; general examination of the patient, palpation of regional lymph nodes. Finger examination of the rectum.	
8	**Rectal cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes. Finger examination of the rectum.	2
9	**Lung cancer, mediastinal tumors.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of the chest and regional lymph nodes, auscultation and percussion of the lungs to detect disorders of bronchial patency and the presence of free fluid in the pleural cavity; methods of bronchoscopy and pleural puncture.	2
10	**Thyroid cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of the thyroid gland and regional lymph nodes; puncture aspiration biopsy of thyroid tumors.	2
11	**Breast cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of the breast and regional lymph nodes; puncture aspiration biopsy of breast tumors.	2
12	**Skin cancer, melanoma.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes Dermatoscopy, skin biopsy, tumor scraping.	2
13	**Curation of patients.**	2
14	**Lymphogranulomatosis. Non-Hodgkin's lymphoma.** Clinic. Diagnosis. Treatment. Non-Hodgkin's lymphoma. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes.	2
15	**Cancer of the kidney, ureter, bladder, prostate cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, cystoscopy technique.	2
16	**Cancer of the uterine body, cervical cancer.** Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes, bimanual examination. Colposcopy.	2
17	**Ovarian cancer.**	2

	Clinic. Diagnosis. Treatment. Collection of complaints, anamnesis; general examination of the patient, palpation of regional lymph nodes, bimanual examination.	
18	**Early diagnosis, primary and secondary prevention of cancer. Palliative and symptomatic treatment of cancer patients.**	2
19	**Protection of medical history .**	2
20	**Final control of module mastering.**	2
Together		**40**

Individual work

№	Topic	Number hours
1	Preparation for practical classes - theoretical training and development of methods of physical and instrumental examination of the patient.	40
2	Elaboration of sections that are not included in the classroom plan (list) is not provided.	–
3	Preparation for the final control of mastering the module	2
Together		**42**

Individual tasks

1. Prepare a review of the scientific literature on the topics being studied.

2. Prepare a presentation on the topic of practical training.

3. Individual independent work of students on one of the topics of choice for the module.

4. Choose illustrative material for the topic of the lesson (video, image).

The list of theoretical questions for preparation of students for the final modular control.

Module 1. Oncology. Clinic, methods of early diagnosis and treatment of the most common cancers.

1. Cancer, the main features of tumor cells and tumor tissue. Infiltrative growth, metastasis.

2. The main causes of cancer, modern ideas about carcinogenesis, carcinogens.

3. Cancer incidence, cancer mortality, structure, accounting and dynamics.

4. Classification of cancers, stages, TNM system.

5. Organization and tasks of the oncology service. Anti-cancer struggle, medical examination of cancer patients.

6. Early diagnosis and screening of cancer. Cancer vigilance.

7. Primary and secondary prevention of cancer.

8. Radical treatment of cancer; combined and complex therapy, principles, methods.

9. Lip cancer: morbidity, causes, epidemiology, precancerous diseases, principles of classification, clinic, diagnosis, early diagnosis, differential diagnosis, principles of treatment.

10. Cancer of the oral mucosa: morbidity, causes, epidemiology, precancerous diseases, principles of classification, clinic, diagnosis, early diagnosis, differential diagnosis, principles of treatment.

11. Cancer of the tongue: morbidity, causes, epidemiology, principles of classification, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, principles of treatment.

12. Esophageal cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, principles of treatment.

13. Gastric cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, differential diagnosis, classification, principles of treatment.

14. Primary and secondary prevention of esophageal and gastric cancer.

15. Pancreatic cancer: morbidity, causes, precancerous diseases, clinic, diagnosis, differential diagnosis, general principles of treatment, prevention.

16. Colon cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment.

17. Rectal cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment.

18. Primary and secondary prevention of cancer of the colon and rectum.

19. Lung cancer: morbidity, causes, epidemiology, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment

20. Primary and secondary prevention of lung cancer.

21. Tumors of the mediastinum (thymoma, lymphosarcoma, teratoma): clinic, diagnosis, differential diagnosis, classification, general principles of treatment.

22. Breast cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, principles of breast cancer screening, breast cancer prevention.

23. Thyroid cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment.

24. Lymphogranulomatosis: clinic, diagnosis, differential diagnosis, classification, general principles of treatment.

25. Skin cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment.

26. Melanoma: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, differential diagnosis, classification, general principles of treatment; primary and secondary prevention.

27. Cancer of the uterine body: morbidity, causes, epidemiology, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment.

28. Cervical cancer: morbidity, causes, epidemiology, precancerous diseases, clinic, diagnosis, early diagnosis, differential diagnosis, classification, principles of treatment; primary and secondary prevention.

29. Kidney cancer: morbidity, clinic, diagnosis, differential diagnosis, classification, general principles of treatment.

30. Bladder cancer: morbidity, clinic, diagnosis, differential diagnosis, classification, general principles of treatment.

31. Prostate cancer: morbidity, clinic, diagnosis, differential diagnosis, classification, general principles of treatment.

List of practical skills for the final modular control

module 1. Oncology.

1. Registration of medical documentation for a cancer patient.
2. General clinical examination of patients.
3. Stomatoscopy.
4. Palpation of lymph nodes.
5. Lymph node puncture.

6. Collection of material for cytological examination.

7. Biopsy of soft tissue tumors, breast, thyroid skin.

8. Bimanual examination of tumors of the oral cavity.

9. Rectal examination.

10. Assistance in small operations.

The form of final control of learning success - final modular control (PMC).

Current and final control system.

When assessing the mastery of each topic of the module, the student is graded on a 4-point (traditional) scale. This takes into account all types of work provided by the guidelines for the study of topics.

Table 1. Standardized generalized criteria for assessing the knowledge of higher education students in PSMU

On a 4-point scale	Assessment in ECTS	Evaluation criteria
5 (perfectly)	A	The student shows special creative abilities, is able to acquire knowledge independently, without the help of the teacher finds and processes the necessary information, is able to use the acquired knowledge and skills for decision-making in unusual situations, convincingly argues answers, independently reveals own talents and inclinations, possesses not less than 90 % of knowledge on the topic both during the survey and all types of control.
4 (good)	B	The student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems
		in standardized situations, independently corrects errors, the number of which is insignificant, has at least 85% knowledge of the topic both during the survey and all types of control.

	C	The student is able to compare, summarize, systematize information under the guidance of a research and teaching staff, in general, independently apply it in practice, control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm opinions, has at least 75% of knowledge on the topic both during the survey and all types of control.
3 (satisfactorily)	D	The student reproduces a significant part of theoretical material, shows knowledge and understanding of the basic provisions with the help of a researcher can analyze educational material, correct errors, among which there are a significant number of significant, has at least 65% knowledge of the topic, and during the survey, and all types of control.
	E	The learner has educational material at a level higher than the initial, a significant part of it reproduces at the reproductive level. has at least 60% knowledge of the topic both during the survey and all types of control.
2 (unsatisfactorily)	BH	The student has the material at the level of individual fragments that make up a small part of the material, has less than 60% knowledge of the topic both during the survey and all types of control.
	B	The student has the material at the level of elementary recognition and reproduction of individual facts, elements, has less than 60% knowledge of the topic as during the survey, and all types of control.

The obtained points for the module are presented by the research and pedagogical worker in the "Statement of final module control" (and the individual curriculum of the student.

Scores on the traditional scale are converted into points by calculating the average score of current performance on the traditional 4-point scale.

Table №2. Unified table of correspondence of scores for current performance, scores for PMK, exam, and traditional four-point score.

Average score for current performance (A)	Points for current success in the module (A * 24)	Points for the final control from the module (A*16)	Points for the module and / or exam (A*24 + A*16)	Category ECTS	By 4-point scale
2	48	32	80	d EX	**2** unsatisfactorily
2,1	50	34	84		
2,15	52	34	86		
2,2	53	35	88		

2,25	54	36	90		
2,3	55	37	92		
2,35	56	38	94		
2,4	58	38	96		
2,45	59	39	98		
2,5	60	40	100		
2,55	61	41	102		
2,6	62	42	104		
2,65	64	42	106		
2,7	65	43	108		
2,75	66	44	110		
2,8	67	45	112		
2,85	68	46	114		
2,9	70	46	116		
2,95	71	47	118		
3	72	50	122	**E**	**3** satisfactorily
3,05	73	50	123		
3,1	74	50	124		
3,15	76	50	126		
3,2	77	51	128		
3,25	78	52	130	**D**	
3,3	79	53	132		
3,35	80	54	134		
3,4	82	54	136		
3,45	83	55	138		
3,5	84	56	140		
3,55	85	57	142		
3,6	86	58	144	**C**	**4 good**
3,65	88	58	146		
3,7	89	59	148		
3,75	90	60	150		
3,8	91	61	152		
3,85	92	62	154		
3,9	94	62	156		
3,95	95	63	158		
4	96	64	160	**B**	
4,05	97	65	162		
4,1	98	66	164		
4,15	100	66	166		
4,2	101	67	168		
4,25	102	68	170		
4,3	103	69	172		
4,35	104	70	174		
4,4	106	70	176		
4,45	107	71	178		
4,5	108	72	180	**A**	**5** perfectly
4,55	109	73	182		

4,6	110	74	184		
4,65	112	74	186		
4,7	113	75	188		
4,75	114	76	190		
4,8	115	77	192		
4,85	116	78	194		
4,9	118	78	196		
4,95	119	79	198		
5	120	80	200		

The final module control is carried out after the completion of the study of all topics of the module at the last control lesson from the module.

Students who have attended all the classes provided by the curriculum in the discipline and have scored at least the minimum number of points during the study of the module are admitted to the final control. A student who, for valid or non-valid reasons, has missed classes is allowed to work off academic arrears until a certain deadline.

The form of final modular control is standardized and includes control of theoretical and practical training. For the final modular control at the department prepared tickets, including theoretical and practical tasks. The theoretical part consists of test tasks on two different topics and situational tasks (2). To control the practical training, students are provided with images of various radiological research methods (radiographs, CT, MRI, ultrasound), which they must evaluate, describe according to the scheme and draw conclusions.

The result of the final module control is evaluated in points (traditional 4-point evaluation is not given). The maximum number of points of the final modular control at the department is 80 points (20 points for test tasks, two tasks and the practical part). The minimum number of points of the final module control, for which the control is considered to be passed, is 50 points.

Teaching methods.

When studying module 1. Oncology use adequate teaching methods. According to the sources of knowledge, teaching methods are used: verbal - story, explanation, lecture, instruction; visual - demonstration, illustration; practical - practical work, problem solving. By the nature of the logic of cognition, the following methods are

used: analytical, synthetic, analytical-synthetic, inductive, deductive. According to the level of independent mental activity, the following methods are used: problem-based, partial-search, research.

Active teaching methods:

- thematic discussions;
- brain storm;
- Round Table;
- analysis of specific situations (case method);
- simulation tasks;
- problem statement;
- partial search, research, heuristic methods;
- presentations.

Control methods.

 oral control;
 written control;
 test control;
 programmable control;
 practical inspection;
 self-control and self-assessment.

Methodical support:

1. Working program of the discipline
2. Methodical development of lectures
3. Methodical recommendations for teachers
4. Methodical instructions for independent work of students during preparation for a practical lesson and in class
5. List of recommended reading
6. Materials for control of knowledge, skills and abilities of students:

- tests of different levels of difficulty
- situational tasks

7. Videos

8. Multimedia presentations of lectures,

9. Visual materials: protective materials (lead containers for RFP, aprons and gloves made of leaded rubber, etc.), dosimeters, radiometers.

Recommended Books

1. Oncology: a textbook / AI Shevchenko, OP Kolesnik, NF, O.M. Levik, EI Savchenko, A.Yu. Colonels; for order. AI Shevchenko. - Vinnytsia: Nova Kniga, 2019. - 512 p.
2. Oncology: a textbook / Yu.V. Dumansky, AI Shevchenko, I.Y. Galaychuk and others; for ed .. G.V. Cooper, AI Shevchenko, I.Y. Galaychuk.- 2nd ed., Reworked. and add.- K .: VSV "Medicine", 2019.- 520 p.
3. Oncology: textbook / G.V. Bondar, A.I. Shevchenko, I.Y. Halaychuk, Yu.V. Dumansky and others. — 2nd edition-2019.
4. Clinical Oncology: The Bethesda Manual: 5th Edition. Jaime Abraham, James L. Galli/2021.
5. Book "Oncology" Shevchenko A. I., Kolesnyk O. P., Shevchenko N. F. and others - 2020.

Information resources

http://unci.org.ua/
http://www.esmo.org
https://www.nccn.org/
https://www.ncbi.nlm.nih.gov/pubmed/
https://www.thelancet.com/journals/lanonc/issue/current
http://medserver.tripod.com
http://pain.com/
http://www.esmo.org
www.nccn.org
unci.org.ua/spetsialistam/zhurnal-klinichna-onkologiya/
https://nebolet.com.ua/medarea/oncology.html
http://unci.org.ua/spetsialistam/nacionalnij-kancer-reyestr/

Developer: assistant Voronova Lilia
associate professor Mukovoz Oksana.