



CD 8.5.1 CURRICULUM DISCIPLINĂ

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FACULTY OF MEDICINE

STUDY PROGRAM 0912.1 MEDICINE 2

DEPARTAMENT OF ONCOLOGIE

APPROVED

At the meeting of the Quality Assurance Committee
and curricular Evaluation Faculty of Medicine

Proceedings No. 4 from 20.09.17

President, PhD, associate professor

Suman Serghei

APPROVED

At the meeting of Medical Faculty No.1
Council

Proceedings No. 4 from 20.09.17

Dean of Faculty of Medicine No.1, PhD,

associate professor Gh. Plăcintă

APPROVED

at the meeting of the Oncology Dept.

Proceedings No. 3 from 02.10.2017

Head of the Oncology Department PhD, associate professor

Dumitru Sofroni

SYLLABUS

DISCIPLINE OF ONCOLOGY

Integrated studies

Course type: **Mandatory discipline**

Chișinău, 2017



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I. PRELIMINARIES

- *General presentation of the discipline: place and role of discipline in formation of specific competences of professional training program / specialties*

The discipline of oncology represents an important component in clinical education and has a major objective in research of epidemiological peculiarities and etiological factors oriented through realization of primary prophylaxis by promoting a healthy lifestyle. The diagnosis and treatment of precancerous states. Study of cancer evolution, regional tumor spreading and distant metastasis: lymphatic, hematogenous. Clinic and paraclinic peculiarities, establish the principal of precocious diagnosis and treatment of cancer, in different stages of malignization. To estimate of survival and prognosis factors.

The oncologic pathology is one of the main clinical discipline, which morbidity and mortality has tendency to increase. Although the incidence of some cancer localizations as (stomach, esophagus, lungs) has been reduced, the incidence of such tumors as breast cancer (second place in the structure of morbidity by cancer in Moldova), prostate cancer, skin cancer, oral cavity.

In the structure of mortality in the Republic of Moldova the incidence by cancer occupy the second place. It is well known that the success in treatment of malignant tumors is correlated with preclinical and early detection of cancer. Despite technological progress, modernization of diagnosis and treatment modalities, the advanced stages of the tumor process constitute 30 – 40%, being in gastric and lung cancers even higher – 50 – 51%.

- *The purpose of the discipline:* The main objectives is to teach the students of 5-year, Faculty of Medicine, in the aspect of assimilation of knowledge about mandatory and optional precancer states, treatment modalities in these pathologies (which constitute the secondary prophylaxis of cancer); detection in early stages of cancer (which ensures conditions for radical treatment, with good chance of recovery in 95 – 98% of patients).

- **Teaching languages:** Romanian, Russian, English, French;
- **Beneficiaries:** students of the first year, Medicine Faculty No. 1 and No. 2, Medicine specialty

II. ADMINISTRATION OF THE DISCIPLINE

Code of discipline		S.08.O.079	
Name of discipline		Oncology	
Responsible for discipline		University profesor Dumitru Sofroni	
Year	IV	Semester	I, II
Total hours, including:		90	
Contact direct		56	
Cours	16	Practical work	20
Seminars	20	Individual work	4
Evaluation form	E	Number of credits	2



III. THE OBJECTIVES OF TRAINING IN THE DISCIPLINE

At the end of the course, the student will be able to:

At the level of knowledge and understanding:

- The notion and definition of the tumor and its evolution. The term of precancerous states, notions of obligatory and facultative precancer.
- To know preclinical and early stage notions of cancer. The process of enlargement, tumor propagation and metastasis (lymphoma, hematogenous). TNM Stage.
- To understand the epidemiological aspect of cancer. Cancer and the environment. Carcinogenic factors (physical, chemical, biological, etc.) Peculiarity of the age and sex of the patients.
- To know the concepts of primary prophylaxis (removal of noxious factors, carcinogenic factors) and secondary (the etiopathogenetic treatment of precancerous states).
- To know the basic principles in the organization and structure of oncological assistance in Moldova. The role of the department of oncology and I.O. in organizing oncological assistance. The activity of district oncologic consulting rooms, their role in early detection of cancer.
- To know the main tasks and directives of oncology assistance. Division of patients according to clinical groups (Ia, Ib, II, IIa, III, IV). Oncologic dispensary and evidence of oncological patients.

Practical level:

- Knowledge in anamnesis collection data, disease anamnesis and of life peculiarities.
- Performing general skin inspection to exclude cutaneous tumors (basal cell carcinoma, malignant melanoma, sarcomas of soft tissues of the body, etc.).
- Performing the inspection of the mucosal of oral cavity and thyroid gland.
- Inspection and palpation of mammary gland, peripheral lymph nodes (to exclude regional lymphnodes metastases and haematogenous).
- Knowing the principal of distant metastasis Wirhov, Blummer-Schnitzler, Crukkenberg, Soeur Marie-Josephe in gastric cancer.
- Performing the thorax palpation and percussion in lung cancer and mediastinum tumors.
- Performing the abdominal palpation, percussion and auscultation to exclude visceral tumors (gastric, ZPD, hepatic, colon, etc.), hepatic metastases, parietal canceromatosis and ascites.
- Knowing the singh Courvoisier-Terrier in pancreatic cancer.
- Performing digital rectal examination to exclude rectal, prostate and metastatic cancer Blummer-Schnitzler (pararectal) in gastric cancer.
- To read laboratory data (haemogram, biochemical data). Notions about cancer markers.
- To read radiogram in lung, gastric, esophageal, colorectal, urinary, cancer.
- To read mammograms.
- To read urograms, angiograms, polycystograms, pneumocistograms.
- To read MRI
- To read the radioisotope scintigraphy of the liver, spleen, kidney, thyroid, skeletal bone.
- To read ultrasonography (USG).
- Assistance in punction performing of vusual tumors such a (thyroid, breast cancer, peripheral lymphnodes).
- To collect a smears slides for examination – and to take a wound print in visual tumors (skin, lips , cancer of oral cavity mucosa)
- To know general notions in the treatment of malignant tumors:



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- a. surgical treatment
- b. radiotherapy treatment
- c. cryotherapy treatment
- d. laser treatment
- e. chemotherapy treatment
- f. hormonal treatment
- g. combine treatment (adjuvant and non-adjuvant)
- h. complex treatment
- i. palliative and symptomatic treatment

- **at the integration level:**
- be able to assess the place and role of oncology in the clinical training of the student;
- be competent to use the knowledge and methodology of oncology in the ability to explain the nature of pathological processes;
- be able to link the oncological process → at the molecular level → at the cellular level → at the tissue level → at the body level;
- be able to conclude the possible causes of blocking the basic molecular processes and their consequences on the cell, tissue and body in general;
- be able to implement the knowledge gained in the research activity;
- be competent to use critically and with confidence the scientific information obtained using the new information and communication technologies;
- be able to use multimedia technology to receive, evaluate, store, produce, present and exchange information, and communicate and participate in networks via the Internet;
- be able to teach and explain, which will contribute to the management of the professional activity

IV. PREVIOUS CONDITIONS AND REQUIREMENTS

Student of IV year requires the following:

- knowledge of the rendition language
- ✓ skills in sciences at the preclinical level (genetics, anatomy, histology, pathophysiology, morphopathology, pharmacology, semiology surgery, semiology therapy);
- ✓ digital competences (use of the Internet, document processing, electronic tables and presentations, use of graphics programs);
- ✓ ability to communicate and work in team;
- ✓ qualities - tolerance, compassion, autonomy.

V. ORIENTAL TIMETABLE AND ORIENTAL DISTRIBUTION OF HOURS

A. lectures

Nr. d/o	Topic	Hours
1.	History of oncology. Organization of oncological assistance in Moldova. Deontology. Tumors classification.	
2.	Mammary cancer. Precancerous states. Clinical and histological forms. Stage of TNM. Screening of risk groups. Methods of diagnosis and treatment (surgical, combined, adjuvant and non-adjuvant, complex treatment). Surgical treatment - Halsted, Patey, Maden etc. Prognosis	2

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3.	Lung cancer. Carcinogenic factors and precalculations. Clinical, radiological and histological forms. Particularities of microcellular cancer. Methods of diagnosis and treatment of central and peripheral cancer. Particularities of microcellular cancer treatment. Prognosis. Esophageal cancer. Carcinogenic factors and precancerous states. Staging TNM. Diagnostic methods (radiological, endoscopic, CT). Methods of treatment. Classic radical operations: Torec, Garlock, Lwis. Palliative operations (eso-gastric, eso-jejunal anastomosis), gastrostomy Vitzel, Kader. Radiotherapy treatment. Combined treatment. Prognosis.	2
4.	Gastric cancer. Carcinogenic factors and precancerous states. Staging TNM. Ways of expansion and metastasis. Virchow-Troisier Metastasis, Blummer-Schnitzler, Crukenberg, etc. Hematogenic metastases. Diagnostic methods (radiological, endoscopic, etc.). Methods of treatment. Prognosis	2
5.	Cancer of the pancreato-duodenal region. Etiopathogenesis. Staging TNM. Methods of diagnosis and treatment. Bilio-digestive palliative operations. Prognosis. Hepatic cancer. Etiopathogenesis. Staging TNM. Diagnostic methods (USG, CT, isotope scintigraphy, laparoscopy with biopsy). Methods of treatment. Hepatic transplantation with total hepatectomy. Palliative treatment. Prognosis.	2
6.	Colorectal cancer. Carcinogenic factors and precancerous states. Family polyposis. Staging TNM. Methods of diagnosis and treatment. Typical operations: Right, left hemicolonectomy; segmental resection of the colon; Operation Dixon, Babcock - Chiricuță; Miles rectum extirpation. Combined treatment.	2
7	Cancer of the reno-urinary system. Etiopathogenesis of renal cancer. Primary extension and metastasis of renal cancer. Staging TNM. Clinical and histological forms. Diagnostic methods (i / v urography, USG, CT, angiography). Methods of treatment (surgical, radiotherapy, hormonal, chemotherapeutic).Prognosis. Bladder cancer. Etiopathogenesis. Bilharziosis (Schistosomiasis). Clinical and histological forms. Staging TNM. Methods of diagnosis and treatment. Prognosis.	2
8.	Lip cancer, incidence. Factors and precancerous states. Staging TNM. Methods of diagnosis and treatment. Prognosis. Cancer of the oral mucosa and tongue. Predisposing factors. Staging TNM. Methods of diagnosis and treatment. Prognosis. Thyroid cancer, incidence. Carcinogenic factors. Clinical and histological forms. Staging TNM. Methods of diagnosis and treatment. Sipple Syndrome. Particularities of MEN I-II syndrome.	2
9.	The skin cancer. Pretumoral states obligant and facultative of the skin. Clinical and histological form, staging TNM, AJCC, 8-a edition, 2017. Methods of diagnosis. Treatment of skin cancer (surgery, radiotherapy, cryotherapy, laserotherapy, chemotherapy, combine, complex). Tardive resultes and prognosis. Malignant melanoma. Predisposal factors and sings of nevous malignization. Pecvularity of growing and metastasis of melanom. Staging TNM, AJCC, 8-a edition, 2017. Staging by Clarck, Breslow. Methods of diagnosis and treatment of malignant melanoma. Prognosis.	2



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	<p>Lip cancer, incidence. Factors and precancerous states. Staging TNM. Methods of diagnosis and treatment. Prognosis.</p> <p>Cancer of the oral mucosa and tongue. Predisposing factors. Staging TNM. Methods of diagnosis and treatment. Prognosis.</p> <p>Thyroid cancer, incidence. Carcinogenic factors. Clinical and histological forms. Staging TNM. Methods of diagnosis and treatment. Sipple Syndrome. Particularities of MEN I-II syndrome.</p>	
	Total	16

B. The practical work

Nr. d/o	Topic	Hours	
		Practical work	Individual work
1	<p>Skin cancer. Precancerous skin states. Histological forms, staging TNM. Diagnostic methods. Treatment of cutaneous cancer (radiotherapy, cryotherapy, laser therapy, surgery). Tardive and predictive results.</p> <p>Malignant melanoma. Predisposing factors and signs of malignant nevi. Features of melanoma growth and metastasizing. Staging TNM. Methods of diagnosis and treatment of malignant melanoma. Prognosis.</p>	5	0.5
2	<p>Lip cancer, incidence. Factors and precancerous states. Staging TNM. Methods of diagnosis and treatment. Prognosis.</p> <p>Cancer of the buccal mucosa and tongue. Predisposing factors. Staging TNM. Methods of diagnosis and treatment. Prognosis.</p> <p>Thyroid cancer, incidence. Carcinogenic factors. Clinical and histological forms. Staging TNM. Methods of diagnosis and treatment. Sipple Syndrome. Particularities of MEN I-II syndrome.</p>	5	0.5
3	<p>Mamar cancer. Precancerous states. Clinical and histological forms. Stage of TNM. Screening of risk groups. Methods of diagnosis and treatment (surgical, combined, adjuvant and non-adjuvant, complex treatment). Surgical treatment -Halsted, Patey, Maden etc. Prognosis</p>	5	0.5
4	<p>Lung cancer. Carcinogenic factors and precalculations. Clinical, radiological and histological forms. Particularities of microcellular cancer. Methods of diagnosis and treatment of central and peripheral cancer. Particularities of microcellular cancer treatment. Prognosis.</p> <p>Esophageal cancer. Carcinogenic factors and precancerous states. Staging TNM. Diagnostic methods (radiological, endoscopic, CT). Methods of treatment. Classic radical operations: Torec, Garlock, Lwis. Palliative operations (eso-gastric, eso-jejunal anastomosis), gastrostomy Vitzel, Kader. Radiotherapy treatment. Combined treatment. Prognosis.</p>	5	0.5
5	<p>Gastric cancer. Carcinogenic factors and precancerous states. Staging TNM. Ways of expansion and metastasis. Virchov-Troisier Metastasis, Blummer-Schnitzler, Crukenberg, etc. Hematogenic metastases. Diagnostic methods (radiological, endoscopic, etc.). Methods of treatment. Prognosis</p>	5	0.5



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6	Cancer of the pancreato-duodenal region (zone). Etiopathogenesis. Staging TNM. Methods of diagnosis and treatment. Bilio-digestive palliative operations. Prognosis. Hepatic cancer. Etiopathogenesis. Staging TNM. Diagnostic methods (USG, CT, isotope scintigraphy, laparoscopy with biopsy). Methods of treatment. Hepatic transplantation with total hepatectomy. Palliative treatment. Prognosis.	5	0.5
7	Colorectal cancer. Carcinogenic factors and precancerous states. Family polyposis. Staging TNM. Methods of diagnosis and treatment. Typical operations: Right, left hemicolectomy; segmental resection of the colon; Operation Dixon, Babcock - Chiricuță; Miles rectum extirpation. Combined treatment.	5	0.5
8	Cancer of the reno-urinary system. Etiopathogenesis of renal cancer. Primary extension and metastasis of renal cancer. Staging TNM. Clinical and histological forms. Diagnostic methods (i / v urography, USG, CT, angiography). Methods of treatment (surgical, radiotherapy, hormonal, chemotherapeutic). Prognosis. Bladder cancer. Etiopathogenesis. Bilharziosis (Schistosomiasis). Clinical and histological forms. Staging TNM. Methods of diagnosis and treatment. Prognosis.	5	0.5
Total		40	4

VI. REFERENCE OBJECTIVES AND CONTENTS UNITS

Objectives	Contents Units
Topic 1.	
The topic: 1. The skin cancer. Pretumoral states of the skin obligated and facultative. Clinical form and histology, TNM stage, AJCC, the 8 th edition, 2017. Methods of diagnosis. The treatment of skin cancer (surgery, radiotherapy, cryotherapy, laser therapy, chemotherapy, combine, complex). The prognosis and tardive results. Malignant melanoma. Predisposing factors and malignant sings of nevus. Growing peculiarities and metastasis of malignant melanoma. Stage TNM, AJCC, the 8-th edition, 2017. Clark and Breslow stages. Methods of diagnosis and treatment of malignant melanoma. The prognosis.	
<ul style="list-style-type: none"> • To define the basic concepts of oncology. • To know the structure of the skin tissue and the factors favoring the appearance of cutaneous cancer. • To know the pre-cancerous states of the skin and their treatment. • To demonstrate ability to analyze and systematize knowledge. • To apply knowledge in methods of clinical examination, cytology and histology. • To integrate and to apply the knowledge daily to avoid favorable factors in skin 	1 The methods of investigation in oncology
	2 The structure (epidermis, dermis, and hypodermis) and skin functions.
	3. Melanocytes – the pigmented system of epidermis having function of releasing of melanin.
	4. Pretumoral states – Bowen diseases, erythroplasia Quyerat, Paget disease, xeroderma pigmentosum.
	5. Macroscopical forms of skin cancer – nodular, ulcerative, ulcer-infiltrative.
	6. Development particularities of melanomas and pigmented nevus from melanocytes cells.



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disorders.

7. The malignization sings of nevus.

Topic 2.

. Inferior lip cancer, the incidence. The risk factors and pretumoral states obligate and facultative. The stage TNM, AJCC, edition 8th, 2017. Methods of diagnosis and treatment. The prognosis. Oral cavity and tongue cancer. The risk factors. Stage TNM, AJCC, edition 8th, 2017. The methods of diagnosis and treatment. The prognosis

Thyroid cancer, the incidence. Carcinogens factor. Clinical and morphological forms. Stage TNM, AJCC, edition 8th, 2017. Methods of diagnosis and treatment. The Sipple syndrome the peculiarities of MEN I – II syndrome. The Cowden syndrome.

- To define the notion of HPV, ultraviolet, ionizing radiation, and others.
- To know the pre-cancerous factors and states of the lips, buccal mucosa, thyroid and thyroid gland.
- To demonstrate clinical and laboratory examination capabilities.
- To apply modern diagnostic methods (cytological, histological, imagistic - radiographic, TC, MRI).
- To integrate the knowledge gained in medical practice

1. Inferior lip precancers> facultative with productive forms (diffuse hipocheratosis) and destructive (chronic chelitis, chronic fissures) and obligant with productive forms (leucoplasia, different papillomas) and distructive form (trophic ulcers, erithroplasia).
2. Histologic classification (squamous carcinoma).
3. Malignant disease progression - regional metastasis (lymphatic ways) and distant (hematogenic ways).
4. The treatment of skin disease and thyroid gland – surgical treatment, radiotherapy and chemotherapy depending on tumor stage.
5. Ionizing radiation – the main risk factors in DNA alterations of thyrocytes.
6. Histological forms of thyroid gland – histogenetical (cells A, C, B).
7. Modern management in diagnosis of thyroid disorders).
8. Immune cytochemical and immune histological markers
9. The molecular and cellular mechanism of chemo-drugs.

Topic 3.

. Brest cancer. Etiology. Pretumoral states. The clinical and histological forms, molecular classification of breast cancer. The stage TNM, AJCC, edition 8th, 2017. The screening. The risk groups. Methods of diagnosis and treatment (surgery, chemotherapy, radiotherapy, combine treatment, complex, adjuvant and non adjuvant). Operation Halsted, Patey, Madden, etc. the prognosis. The Cowden syndrome.

- To define screening, individual mammary gland examinations, mammography.
- To know the physiological changes in the mammary glands according to the hormone status.
- To know the methods of clinical, imaging and laboratory examination, surgical

1. Anatomy and physiology of mammary gland.
2. Sexual hormones – estrogens and progesterone level.
3. Proliferative process in mammary gland caused by hyperestrogenemie..
4. The characteristic of pretumoral states and



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treatment. Operations Halsted, Patey, Maden.

- To demonstrate abilities in breast examination, interpretation of laboratory data, USG, radiography (mammography, scintigraphy, MRI, cytohistopathology)
- To apply clinical examination, performing punctures in mammary gland tumors.
- To integrate knowledge about mammary gland pathology in the medical and social aspects

benign tumors (fibroadenoma, fibrocyst, intraductal papilloma).

5. The biology of breast cancer.
6. Oncologic anatomy and dissemination ways of metastasis.
7. The element of clinic and paraclinic diagnosis.
8. The treatment. Types of surgery.

Topic 4.

The lung cancer. Etiology and pretumoral states. Clinic – anatomic and histologic forms. The stage TNM, AJCC, edition 8th, 2017. Clinical evolution of lung cancer. Methods of diagnosis and treatment of central and peripheral cancer. The treatment of lung cancer according with stage and histologic form. The prognosis. The treatment peculiarities of bronchial microcellular cancer.

Cancer of esophagus. Carcinogen factors and pretumoral states. Stage TNM, AJCC, edition 8th, 2017. Methods of diagnosis (radiography, endoscopy, CT). Methods of treatment. Radical classic operations: Torec, Garlock, Lewis. Palliative surgery: of rounding gastrostomy type Vitzel, Kader, Toprover. The treatment chemo – radiotherapy. Complex treatment. Prognosis.

- To define screening for detection lung pathology.
- To know the clinical methods and examinations (palpation, percussion, auscultation) of patients with lung disease and precancerous states / esophageal cancer
- To demonstrate skills in normal conditions vs. pulmonary or esophageal pathology
- To demonstrate correct reading of radiograms, CT, MRI, cytology, histology in lung and esophageal cancer.
- To apply the knowledge in examining patients, excluding risk factors, treatment precancerous states
- To integrate optimal decisions in the medical activity in order to optimize the therapeutic act at the prophylaxis level.

1. The states of background and precancers of lungs.
2. Evaluation peculiarities of central and peripheral cancer
3. Atypical form of lung cancer (mediastinal, bones, hepatic, encephalic and milliary).
4. Imagistic examination of thorax organs – radioscopy and pulmonary radiography in front and profile, bronchography, CT, angiopneumography, flebography).
5. The characteristic of precancer states - chronic esophagitis, peptic ulcers, diverticulitis, achalasia, genetic factor with Palmmer Vinson syndrome.
6. Radiology semiotic for exophytic, endophytic and ulcerative forms of tumor.
7. Operation – Lewis, Garlock, Gavrilu and Kirschner-Nakayama, palliative.
8. Radiotherapy treatment in esophagus cancer of cervical region, which is, consider as a radical method.

Topic 5.

Gastric cancer. Carcinogen factors and pretumoral states. Stage TNM, AJCC, edition 8th 2017. Morphologic classification of gastric cancer. Spreading ways and metastasis. Distant lymphatic metastasis Virchov-Troisier, Blummer-Schnitzer, Crukkenberg, etc. Hematogenous metastasis. The methods of diagnosis (radiology, endoscopic, etc.). the methods of treatment. Prognosis.

- To define the clinic and methods of

1. The main factors in carcinogens action –



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- diagnosis in gastric examination.
- To know predispositional factors and precancerous states of the stomach.
 - To demonstrate reonhenograms, CT, MRI, histology, endoscopic methods in gastric cancer.
 - To apply the knowledge in patients examination (lymphnodes palpation), establish pretumoral states, the principals of diagnosis and treatment. To integrate the knowledge in professional activity to exclude the risk factors and treatment of pretumoral states.

- rich diet in hydrates, preparing and preserving of food, nitrosamines action, nitrates in water, alcohol, genetic disorders, immunologic affections.
2. Preneoplastic disease as a chronic gastritis, ulcers, polyps and polyposis, Menetrie disease and pernicious anemia.
 3. Lymphnodes station 3 of numbers with 16 groups of regional lymphatic nodes.
 4. Metastasis Virhov, umbilica, Crukenberg, Blummer – Schnitzlerl.
 5. Radiologic and laparoscopic detection in gastric cancer.

Topic 6.

Cancer of Pancreato-duadenum zone (PDZ). Etiology. Stage TNM, AJCC, edition 8th 2017. Histologic classification of PDZ cancer. The tumors of pancreas. Methods of diagnosis and treatment. Palliative surgery. Bilio digestive deviation. Prognosis. Wermer syndrome, Wermer-Morison syndrome.

Hepatic cancer. Etiology. Stage TNM, AJCC, edition 8th 2017. Histologic classification of hepatic cancer. Methods of diagnosis (USG, CT, Scintigraphy, laparoscopy with biopsy). Method of treatment. Description of total hepatectomy. Palliative treatment. Prognosis.

- To define anatomical structure of that area, clinic and methods of diagnosis of PDZ.
- To know the clinic, investigation methods of PDZ.
- To demonstrate the knowledge in clinic and paraclinic investigation (laboratory, imagistic and endoscopic).
- To apply the knowledge in clinical examination (liver palpation, abdominal), reading the laboratory examination (biochemical, immunological), imaging and endoscopic results in correct application of principal of treatment of PDZ. To integrate the optimal decision in therapeutic act.

1. PDZ – is composed of pancreas, duodenum, water region (papilla and Water ampula) and extrahepatic billiar tract.
2. Prejaundece phase and jaundice in clinic of PDZ.
3. Clinical methods, radiology and endoscopy of diagnosis.
4. Epithelial benign tumors – hepatocellular adenoma, holangiocellular, cystadenoma and papilloma with biliary cells; mezenchimatosis – angioma, cavernous hemangioma, infantile hemangioendothelioma.
5. Primary malignant hepatic tumors and secondary (metastatic).

Topic 7.

Colorectal cancer. Carcinogens factors and pretumoral states. Familial polliposis. Stage TNM, AJCC, edition 8th, 2017. Histologic form of colorectal cancer. Methods of diagnosis and treatment. Typical surgery: right, left hemicolonectomy; segmentar resection of colon; operation Dixon, Babcock – Chircuta; rectal extirpation type Genus-Miles. Combine treatment.

- To define the physiological and pathological process at the colon and rectum.
- To know precancerous states and

1. Alimentary regime – animal fats excess and cholesterol and deficiency celluloses fibers.
2. Precancer states – inflammatory disorders,



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principals of examination of colon and rectum (imaging, endoscopic).

- To demonstrate the knowledge in clinic of colon and rectum pathology, to read the irigogramms in different states of colon pathology.
- To apply the knowledge of diagnosis in precancers and the principals in precocious and advanced states of colon cancer.

To integrate the knowledge daily for promotion of healthy way of life.

pollips adenomatosis, genetic factor, Gardner syndrome, Peutz-Jeghers syndrome.

3. Clinical form of colon cancer.
4. Method of diagnosis and treatment
5. Radical and palliative surgical treatment.
6. Postsurgery complications and treatment of it.

Topic 8.

Renal-urinary system cancer. Etiology of renal cancer. Primary and metastatic extension of renal cancer. Stage TNM, AJCC, edition 8th, 2017. Clinical and histologic forms. Methods of diagnosis (i/v urography, USG, CT, angiography). Methods of treatment (surgery, radiotherapy, chemotherapy, hormonal). Prognosis.

Cancer of urinary bladder. Etiology. Bilharziosis (Schistosomiasis). Clinical and histological forms. Stage TNM, AJCC, edition 8th, 2017. Methods of diagnosis and treatment. Types of surgery: cystectomy, resection of urinary bladder, hemiresection. Palliative surgery: epicystotomy, uretero-cutaneostomy. Prognosis.

- To define the role of noxious factors on reno-urinary system.
- To know etiology in malignant and benign tumors of reno-urinary system.
- To demonstrate the knowledge to analyze of principals of diagnosis and treatment of renal and urinary bladder pathology.
- To apply of modern methods radiology and endolaparoscopic of diagnosis of pathology of reno-urinary system.
To integrate the knowledge about modern technics of diagnosis and treatment of reno-urinary system in professional activity.

1. Persons including in risk groups of renal cancer (persons who suffering of chronic renal disorders, renal abnormality, leucoplasi, nephrolithiasis, renal degenerative cyst, contact with chemical substances).benign and malignant tumors of parenchimos and renal pyramid.
2. Renal cancer symptoms triad and of urinary bladder.
3. Triad symptoms of renal and urinary cancer.
4. Clinical forms of renal cancer (hematuric, tumor, mixt, fever, metastatic).
5. Method of diagnosis and treatment of urinary tract.
6. Tumor differentiation between renal tumors and retroperitoneal extra organic tumors.



VII. PROFESSIONAL COMPETENCES (SPECIFIC (CS) AND TRANSVERSAL (CT)) AND FINAL STUDIES

✓ PROFESSIONAL COMPETENCES:

- CP 1. Knowing, understanding, and using of specific oncologic language;
- Identification and using concepts, principals and theory of oncology in professional activity.
- Knowing and understanding the cellular changes in different organs, oncogenes, explanation of principals of metastasis.
- Explaining and understanding of tumoral progression.
- Knowing of diseases of background and precancers in prophylaxis of oncological tumors.
- Knowing TNM classification and to establish tumoral stage.
- Appropriation of classification tumors of cytohistological.
- Appropriation methods of surgical treatment of oncological patients.
- Knowing the principals of chemotherapy treatment of oncological patients.
- Knowing the principals radiotherapy treatment of oncological patients.
- Appropriation methods of prophylaxis in oncology.

✓ TRANSFERRAL COMPETENCES:

- Capacity perfection of decisional; autonomy;
- Forming of personal position;
- Ability of social interaction, activity in group with different roles.
- Framing in interdisciplinary projects, extracurricular activity.
- Perfecting of digital qualification;
- Developing of different technics to study;
- Selection of digital materials, critical analysis and making conclusion;
- Presentation of scientific individual projects.

✓ THE FINAL STUDIES

- To know peculiarities of organization and components of one good therapeutic act;
- To know clinical methods and examination maneuvers of oncological patients;
- To know predisposal factors and precancers states in oncology;
- To understand changes on cellular and tissues levels (oncogenesis, oncogens and antioncogens, apophthosis);
- To know microscopic forms of oncologic pathology
- To know peculiarities of progression of malignant process in different localization;
- To know paraclinical methods (laboratory) – hematological, biochemical, byological markers) in examination of oncologic patients.
- To know paraclinical methods (imaging) – radiology, tomography, mammography, urography etc.) in examination of oncologic patients.
- To know paraclinical methods (endo laparoscopy) in examination of oncological patients.
- Appropriation of methods of treatment – surgical, chemotherapy and radiotherapy in oncologic pathology;
- To apply the knowledge in prophylaxis of oncological disease.



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- To be able of evaluate the place and the role of oncology in clinical preparing of student-physician.
- To be competent to utilize the knowledge and methodology of oncology in ability for explaining the nature of some physiological and pathological process.
- To be competent for deduction of some possible cases of oncological process against cell, tissue, all human body.
- To be capable for implementation of knowledge in activity of researcher;
- To be competent for using critically and with confidence the scientific information obtained, using the new informational and communication technology.

Note. Discipline finality (are deducted from professional competences and formative valences of informational containing of discipline).

✓ **Professional skills (specific) (CS)**

- CS1.
- CS2.
- others.

✓ **Transversal skills (CT)**

- CT1.
- CT2.
- others.

✓ Final Studies

VIII. THE STUDENT'S INDIVIDUAL WORK

Nr.	The expected product	Strategy of achievement	Evaluation criteria	Period of realization
1.	Work with the book	Systemic work and mediate	Quality, logical thought, flexibility	During the module
2.	Report	Relevant sources analyses on theme report. Analysis, systematization and informational synthesis to theme proposal. Report structure in conformity with requirements in force and presentation at the department/group.	1. Quality systemizing and analyzing of informational material obtained by own activity. 2. Information concordance with theme purpose.	During the module



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3.	Work with informational sources	Reading of lectures or material from the book on respective theme, careful. Reading the questions of theme, which necessity a reflection on the subject. To know the list of informational sources on respective theme. To select informational sources on theme. Text reading with attention and describing essential containing. Generalization formulations and conclusion of importance theme/subject.	Capacity to extract the essential; interpretative ability; volume of work.	During the module
4.	Appling of different technics of study		Volume of work, the grade of entrance in essence of different subjects, level of scientific argument, quality of conclusions, creativity elements, demonstration of understanding the problem, personal attitude forming.	During the module
5.	Work with online materials	Auto evaluation on-line, studying materials on-line on site of department, self-opinion expression through forum and chat.	Number and period entering on SITE, the results of auto evaluation.	During the module
6.	Preparing and theses supporting	Selection of research theme, establishing the research plan , establishing the realization period. Establishing the project components/presentation PowerPoint-theme, the aim, results, conclusion, practical application, bibliography. Reviews colleagues. Reviews teachers.	Volume of work, the grade of entrance in essence of theme of project, level of scientific argumentation, quality of conclusions, elements of creativity, attitude forming.	During the module
7.	Analysis of one case	Choosing and describing of case study. Causes analyses of some problems appeared in case study.	1. Analyzing, synthesis, generalization data obtained	During the module



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		The prognosis result of case.	by own investigation. 2. Forming an algorithm of knowing in base of obtaining conclusion.	
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IX. METHODOLOGICAL SUGGESTION OF SURRENDER – TEACHING – EVALUATION

• The method of surrender and teaching utilized

At the surrender of discipline of Oncology is using different methods and didactic procedures, oriented to effective insistence and reaching goals of didactic process. In theoretical lessons, with traditional methods (spelling lesson, conversation lesson, synthesis lesson) is using and modern methods (lecture debates, lecture conference, lecture problem sated). In the practical works there are used individual forms of activity, patient examination, participating to the operation room, implication in clinical investigation (palpation, peripheral lymphnodes punction, percussion and abdominal and thorax palpation) and paraclinical.

For appropriation deeper of material, it is using different semiotic systems (scientific language, computerized and graphic language) and didactic materials (tables, schemes, radiograms, computer tomography, MRI, scintigraphy, mammography, endoscopic data, laparoscopic and cyto histologic). At the lectures and extracurricular activities using Informational Technology of Communication – presentation PowerPoint, lectures on-line.

- **The strategy/technology teaching applied** (*specific to the department*)
” Group Interview ”; "Clinical case study"; "Creative Controversy"; "Focus-group technique".
Practical works.
- **Methods of evaluation** (*calculating and including of final mark*).
✓ **Current.** frontal and / or individual control through
 - (a) applying the tests to the studied subject,
 - (b) solving the problems of the situation,
 - (c) analysis of clinical case studies
 - (d) performing role-plays on the topics discussed.
 - (e) interpretation of clinical, laboratory, imaging and endo laparoscopy data.
- ✓ **The final:** exam

How to round up the grades of the evaluation steps

Intermediate note (annual average, marks from the exam stages)	National system marks	Equivalent ECTS
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	E
5,01-5,50	5,5	
5,51-6,0	6	
6,01-6,50	6,5	D
6,51-7,00	7	

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7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	B
8,51-8,00	9	
9,01-9,50	9,5	A
9,51-10,0	10	

The final mark will consist of the average score of four exam (share 0.3), practical habits of the patient (share 0.2), final test sample (share 0.2), oral response (share 0.3), and the final score obtained will be expressed in two decimal places, which will be entered in the notes book.

Failure to attend the examination without reason is recorded as "absent" and is equivalent to 0 (zero) rating. The student is entitled to 2 repeated claims of the unsuccessful exam.

X. RECOMMENDED BIBLIOGRAPHY:**A. Obligatory:**

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4. Semne, sindroame și personalități notorii în oncologie, hematologie și medicina universală (definiții și tălmăciri în limba română). Îndrumar clinico-didactic. Ghidirm N., Corcimaru I., Mereuță I., Bacalîm I., Martalog V., Corobcean N., Rotaru T. Chișinău, 2015. - **186**
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6. Клиническая онкология. Учебник для студентов. Кишинев, 2005, 830 с. Цыбырнэ Г., Корчмару И., Софрони Д. и др.
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11. Cancerul glandei tiroide. Chișinău, 2017, 320p. Țîbîrnă A.
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B. Supplementary

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3. Cancerul bronhopulmonar : indicații metodice pentru studenți, rezidenți, medici de familie, oncologi, ftizio pneumologi / V. Martalog, V. Cernat, N. Ghidirim [et al.] ; Universitatea de Stat de Medicină și Farmacie "Nicolae Testemițanu" ; IMSP Institutul Oncologic din Republica Moldova. - Chișinău : Continental-Grup, 2009
4. Harrison's hematology and oncology / ed. : D. L. longo. - New York : McGraw-Hill Medical, 2013