



**PA 7.5.1  
SYLLABUS**

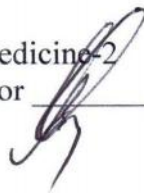
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Approved

At the meeting of the Faculty Council  
Medicine-2  
Minutes No. 3 of 25.02.2014

Dean of the Faculty Medicine-2  
PhD, associate professor  M. Betiu

Approved

At the meeting of the chair of Oncology,  
Hematology and Radiotherapy  
Minutes No. 1 of 09.09.2014

Head of the chair,  
PhD, university professor  I. Mereuta

**SYLLABUS FOR STUDENTS OF THE  
FACULTY MEDICINE-2**

Name of the course: **Oncology**

Code of the course: **S.09.O.086**

Type of course: **compulsory**

**Total number of hours – 70**

**lectures --- 20 hours, practical lessons ---- 50 hours**

Number of credits provided for the course: **3**

Lecturers teaching the course: **university professor I. Mereuta,**  
**university professor N. Ghidirim,**  
**associate professor T. Rotaru,**  
**associate professor Martalog,**  
**associate professor C. Popescu**

**Chisinau - 2014**



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**I. Aim of the discipline:** Teaching of 5-year students, 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 of preclinical and early cancer (which ensures conditions for radical treatment, with chances of perfect curability in 95 – 98% of patients).

### **II. Objectives obtained in teaching the discipline:**

- Assimilation of theoretical material, especially oncogenesis, clinical oncology pathologies;
- Learning methods of investigation, diagnosis and treatment;
- Possession of practical maneuvers: visualization and palpation of the visible forms of tumors;
- Palpation of peripheral lymph nodes, abdominal cavity and more.

#### At the level of knowledge and understanding

- Concepts and definition of tumor and its evolution. Terms of precancer states, concepts of mandatory and optional precancer.
- Concepts of preclinical and early stages of cancer. The process of tumor extension, spread and metastazation (lymphogenous, hematogenous). TNM staging. Process of enlargement and propagation of tumor and metastasis (through the lymphatic and bloodstream). TNM staging.
- Epidemiological aspects of cancer. Cancer and the environment. Carcinogenic factors (physical, chemical, biological, etc.). Age- and sex-related features.
- Concepts of primary prevention (removal of harmful, carcinogenic factors,) and secondary (etiopathogenetic treatment of precancerous states) prevention.
- The organization and structure of oncologic service in Moldova. The role of the department of Oncology and Institute of Oncology in the organization of cancer care. The activity of the district oncologic offices, and their role in early detection of cancer.
- Main tasks and directives of oncologic service.  
The division of patients according to the clinical group (Ia, Ib, II, IIa, III, IV)  
Dispensary system and follow-up of oncologic patients.



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### At the level of application

- Knowledge of anamnestic data, disease and life history.
- General examination of the skin with the aim of excluding skin tumors (basalioma, cancer, melanoma, sarcomas of the soft tissues of the body, etc.).
- Examination of the oral cavity, thyroid gland.
- Inspection, palpation of the mammary glands, peripheral lymph nodes (to exclude metastases in regional lymph nodes and hematological malignancies).
- Definition of Virchow's metastasis
- Palpation and percussion of the chest in lung cancer and mediastinal tumors.
- Palpation, percussion and auscultation with the aim of exclusion of visceral tumors (gastric cancer, cancer of the PDZ, liver cancer, cancer of the colon, etc.), liver metastases, parietal carcinomatosis and ascites.
- Digital rectal examination in order to exclude rectal cancer, prostate cancer and Blummer-Schnitzler metastases (pararectal) in gastric cancer.
- Interpretation of laboratory data (blood count, biochemical data). Concepts about cancer markers.
- X-ray interpretation in lung, gastric, esophageal, colorectal, urinary bladder cancer.
- Interpretation of mammography images
- Interpretation of the intravenous urograms, angiograms, polycystograms, pneumocystograms.
- Interpretation of the sectional tomography scanograms and computed tomography scanograms.
- Interpretation of nuclear magnetic resonance.
- Interpretation of the liver, spleen, kidneys, thyroid gland and bone radioisotope scintigrams.
- Interpretation of ultrasound scanograms.
- Assistance within the frame of punctions of the visual-considered tumors (thyroid gland, breast, peripheral lymph nodes).
- Processing imprint smears in visual cancers (skin cancer, lips cancer, oral mucosa cancer, etc.).
- General concepts in treatment of malignant tumors:
  - a. surgical treatment
  - b. radiotherapeutic treatment
  - c. cryotherapy treatment
  - d. laser therapy treatment
  - e. chemotherapeutic treatment
  - f. hormonal treatment



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- g. combined treatment (adjuvant and neoadjuvant)
- h. complex treatment
- i. palliative and symptomatic treatment

### At the level of integration

- Appreciation of importance of oncology in the context of General Medicine and correlation with related medical disciplines (anatomy, histology, physiology and pathological physiology, biochemistry, etc.).
- Principles of diagnosis and treatment of oncological diseases with knowledge of internal medicine, urology, endocrinology, surgery, dermatovenerology, etc.
- Knowledge of pharmacokinetics and pharmacodynamics of the drugs used in the chemotherapy.
- Objective assessment and self-assessment of knowledge in the field of oncology of various localizations, with knowledge of internal medicine, endocrinology, dermatovenerology, etc.
- Taking of optimal decisions in rendering emergency aid in complications of cancer of different localizations, using knowledge of surgery, urology, etc.

### ***III. Provisional terms and conditions***

Study of oncology is very important in training of physicians specialized in different fields. It should be mentioned that patients with oncologic diseases do not consult firstly the oncologist, but visit family physicians, therapists, surgeons, dentists, etc. Therefore making of correct diagnosis on time depends on the knowledge of different physicians in this field.

### ***IV. Main theme of the course:***

1. Skin cancer. Precancerous conditions of the skin. Histological forms, TNM staging. Diagnostic methods. Skin cancer treatment (radiotherapy, cryotherapy, laser therapy, surgical). Long-term results and prognosis.
2. Malignant melanoma. Predisposing factors and signs of nevus malignization. Features of growth and metastatic dissemination of melanoma. TNM staging. Methods for diagnosis and treatment of malignant melanoma. Prognosis.
3. Lip cancer, incidence. Factors and precancerous conditions. TNM staging. Methods of diagnosis and treatment. Prognosis.
4. Oral cavity mucosa and tongue cancer. Predisposing factors. TNM staging. Methods of diagnosis and treatment. Prognosis.



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5. Thyroid cancer, incidence. Carcinogenic factors. Clinical and histological forms. TNM staging. Methods of diagnosis and treatment. Sipple syndrome. features of MEN I-II-a syndrome.
6. Breast cancer. Precancer conditions. Clinical and histological forms. TNM staging. Risk groups screening. Methods of diagnosis and treatment (surgical, combined, adjuvant and neoadjuvant, complex treatment). Halsted, Patey, Maden operations, etc. Prognosis.
7. Lung cancer. Carcinogenic factors and precancers. Clinico-radiological and histological forms. Microcellular cancer features. Methods of diagnosis and treatment of central and peripheral cancer. Features of microcellular cancer treatment. Prognosis.
8. Esophageal cancer. Carcinogenic factors and precancer conditions. TNM staging. Diagnostic methods (radiologic, endoscopic, CT). Treatment modalities. Classical radical operations: Torec, Garlock, Lwis. Palliative operations (esophageal-gastric anastomosis, esophageal-jejunal anastomosis), Vitzel, Kader gastrostomy. Radiotherapy treatment. Combined treatment. Prognosis.
9. Gastric cancer. Carcinogenic factors and precancer conditions. TNM staging. Ways of expansion and metastatic dissemination. Virchow-Troisier, Blummer-Schnitzler, Crukenberg metastasis, etc. Hematogenous metastases. Diagnostic methods (radiologic, endoscopic, etc.). Methods of treatment. Prognosis.
10. Pancreaticoduodenal zone cancer (PDZ). Etiopathogenesis. TNM staging. Methods of diagnosis and treatment. Biliodigestive palliative operations. Prognosis.
11. Liver cancer. Etiopathogenesis. TNM staging. Diagnostic methods (ultrasound and, CT scanning, radioisotope scintigraphy, laparoscopy with biopsy). Treatment methods. Term of total hepatectomy with liver transplantation. Palliative care. Prognosis.
12. Colorectal cancer. Carcinogenic factors and precancerous conditions. Familial polyposis. TNM staging. Methods of diagnosis and treatment. Typical operations: right-, left-sided hemicolonectomy, segmental colon resection; Dixon operation, Babcock – Chiricu operation; rectum extirpation of Miles type. Combined treatment.
13. Renourinary system cancer. Etiopathogenesis of kidney cancer. Primary expansion and metastatic dissemination of renal cancer. TNM staging. Clinical and histological forms. Diagnostic methods (intravenous urography, USG, CT, angiography). Methods of treatment (surgical, radiotherapeutic, hormonal, chemotherapeutic). Prognosis.



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14. Urinary bladder cancer. Etiopathogenesis. Bilharziosis. Clinical and histological forms. TNM staging. Methods of diagnosis and treatment. Prognosis.

N d/o	SUBJECT	Number of hours		
		course (lectures)	practical lessons	Total
1.	History, structure and organization of oncologic service in Moldova.	2	5	7,0
2.	Skin cancer. Malignant melanoma. Tongue and buccal mucosa cancer. Thyroid cancer.	2	5	7,0
3.	Precancer conditions and breast cancer.	2	5	7,0
4.	Gastric cancer. Esophageal cancer.	2	5	7,0
5.	Colorectal cancer.	2	5	7,0
6.	Lung cancer.	2	5	7,0
7.	Pancreaticoduodenal zone and liver cancer.	2	5	7,0
8.	Liver cancer.	2	5	7,0
9.	Kidney and urinary bladder cancer.	2	5	7,0
10.	Colloquial examination.	2	5	7,0
11.	Total.	20	50	70

***V. Recommended literature:***

*- A. compulsory:*

1. Lectures
2. Oncologie clinic . Manual. Chi in u, 1998, 306 p.





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3. ATLAS TNM ( ghid ilustrat de clasificare TNM/p TNM a tumorilor maligne). Traducere din limba francez în român . Ghid. Chi in u, 2000, 380 p. âbârn Gh., Sofroni M., Mereu I.
4. Ghid clinic de oncologie. Ghid. Chi in u, 2003, 828 p. âbârn Gh., Co ciug I., Sofroni M. i a.
5. . . . . , 2005, 830 c.
6. Dic ionar explicativ de oncologie. N. Ghidirim. Chi in u, 2005, 543 p.
7. Cancérologie (Guide pratique). Paris 1992. Laurent Zelek.
8. Cancérologie. Paris 1996. Vincent Levy.
9. Cancerul bronhopulmonar. Bucure ti, Cluj-Napoca, 1986, 553p.
10. Clinical Oncology. W. Lipencot. New York, 1999.
11. Cancer. Principles end Practic of Oncology. Zinent T., D. Vita. 1982.
12. Surgical Oncology. Yosef H. Pilch. 1984.
13. Engleza pentru medici. 1971.
14. Year book of Digestive diseases. Greenberger Moody. 1989.
15. Breast cancer. Diagnosis and treatment. Irving M., Ariel I., Joseph B. Cleary. 1989
16. Breast carcinoma. Risca and Detection. Haagensen Bodian Haagensen. 1981.

### ***VI. Teaching and learning methods:***

The discipline of Oncology is taught in a classic manner: lectures and seminars. At lectures the theoretical course is held by the course titulars. At seminars the students study clinical cases, tests, cytological smears of the tumors using photon microscope.

***VII. Suggestions for individual activity:*** The department reserves the right to conduct some practical work applying interactive methods.

### **VIII. Methods of assessment**

*Current:* continuous assessment, test-control.

*Final:* differentiated colloquial examination (assessment of practical skills, test-control, average annual mark).

Students with an annual average grade under 5 and students who didn't recover the absences at practical hours are not admitted to the differentiated colloquial examination in Oncology.

The colloquial examination topics are approved at department's meeting and are announced to students at least one month before this examination.

The knowledge is assessed with grades from 10 to 1 without decimals, as follows:



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- 10 or „excellent” (equivalent to ECTS – A) is given for knowing 91-100% of material;
- 9 or „very good” (equivalent to ECTS – B) is given for knowing 81-90% of material;
- 8 or „good” (equivalent to ECTS – C) is given for knowing 71-80% of material;
- 6 and 7 or „satisfactory” (equivalent to ECTS – D) are given for knowing 61-65% and 66-70% of material respectively;
- 5 or „sufficient” (equivalent to ECTS – E) is given for knowing 51-60% of material;
- 3 and 4 or „satisfactory” (equivalent to ECTS – FX) are given for knowing 31-40% and 41-50% of material respectively;
- 1 and 2 or „unsatisfactory” (equivalent to ECTS – F) are given for knowing 0-30% of material;

### Methods of mark rounding

The average of current and final marks	Final mark
5	5
5,1-5,5	5,5
5,6-6,0	6
6,1-6,5	6,5
6,6-7,0	7
7,1-7,5	7,5
7,6-8,0	8
8,1-8,5	8,5
8,6-9,0	9
9,1-9,5	9,5
9,6-10	10

*Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to re-take the exam twice.*

**IX. Language of study:** Romanian, Russian, English, French

**Head of the chair of Oncology, Hematology  
and Radiotherapy,  
university professor**

**Ion Mereuta**

**Studies chief on Oncology discipline of the chair  
of Oncology, Hematology and Radiotherapy,  
associate professor**

**Tudor Rotaru**