**4. CONTENT OF THE COURSE**

**Section 1. Tumors of the skin, thyroid, bones and soft tissues.**

**Topic 1. Skin cancer, melanoma. Thyroid cancer.**

Context: the Etiopathogenesis of skin cancer contributing factors. Facultative and obligate precancer of the skin. Histological and clinical variants of skin cancer. Principles of diagnosis and treatment of skin cancer. Epidemiology and etiopathogenesis of melanoma. Factors contributing to the malignancy of pigment nevi. Signs of malignancy nevus. Methods of special examination. Indications, contraindications and methods of material collection for cytological and histological studies. Principles of radical treatment. Thyroid cancer. Incidence, contributing factors, tactics of treatment of nodal formations of the thyroid gland. Prevention. Pathological characteristics. Ways of metastasis. Clinical picture. Diagnostic method. General principles and results of treatment.

**Topic 2. Tumors of bones and soft tissues.**

The contents of the topic: the Pathogenesis of tumors of soft tissue and bone. Classification of benign and malignant soft tissue tumors. Clinical picture. Features of diagnosis of soft tissue and bone tumors. Principles of radical and palliative treatment. Possibility to perform organ-saving and reconstructive-plastic surgery. Rehabilitation of patients with tumors of the bone system.

**Section 2. Lung cancer.**

**Topic 3. Lung cancer.**

Topic content: Epidemiology of lung cancer. Age and sex characteristics. Contributing factor. Prevention. Questions of etiopathogenesis of various morphological forms of lung cancer. Pathological characteristics. Forms of growth. The concept of Central and peripheral cancer. Regularities of metastasis, classification by stages. Clinical picture. Differential diagnosis. Diagnostics. The main radiological symptoms. Cytological and endoscopic examination. The system of examination for suspected cancer of the Central and peripheral. Screening, high-risk groups. General principles of treatment, the choice of treatment methods depending on the location, stage and morphological structure. Rehabilitation of patients with lung cancer.

**Section 3. Tumors of the digestive tract.**

**Topic 4. Esophagus cancer. Stomach cancer.**

Topic content: Epidemiology and etiopathogenesis of esophageal cancer. Forms of growth, histological structure, metastatic pathways. Clinic. Pathogenesis of clinical symptoms. Differential diagnosis. X-ray method in diagnosis. Esophagoscopy. The basic principles of radical and palliative treatment of esophageal cancer. Epidemiology of gastric cancer. The importance of exogenous and endogenous carcinogens. Precancerous diseases for gastric cancer, especially dispensary observation of patients with precancerous diseases of the stomach. The concept of early gastric cancer. Forms of growth. Pathology is a cancer of the stomach, ways of metastasis. The clinical picture of gastric cancer depending on the location of the lesion and the form of growth. Syndrome of small signs. Differential diagnosis of syndromes, gastric discomfort, dysphagia and stenosis of the pylorus. Diagnostics. Integrated x-ray and endoscopic examination. Methods of early diagnosis. Radical and palliative surgery, indications, technique. Combined treatment of gastric cancer. Remote result.

**Topic 5. Colorectal cancer. Liver tumors and biliopancreatoduodenal zone.**

Topic content: Epidemiology, morbidity. Contributing factor. Precancerous disease. Pathological characteristics. Forms of growth and localization of the tumor. Ways of metastasis. Clinical picture of cancer of the right and left halves of the colon. Basic clinical options. Diagnosis, the value of x-ray and endoscopic examination. Principles of radical treatment of colon cancer, the volume of surgery depending on the location of the tumor. The role of drug therapy in the treatment of colon cancer. Rectal cancer. Epidemiology, morbidity. Contributing factor. Precancerous disease. Pathological characteristics. Forms of growth and localization of the tumor. Ways of metastasis. Clinical picture depending on the location and form of growth. Differential diagnosis of bleeding from the rectum (hemorrhoids, polyps, dysentery, fissure of the anus). Diagnosis (digital rectal exam, sigmoidoscopy). Principles of radical treatment of rectal cancer, types of surgery. The role of radiation and drug therapy in the treatment of rectal cancer. Principles of palliative treatment of rectal cancer, types of palliative surgery. Primary and metastatic liver cancer. Forms of growth and histological structure. The etiopathogenesis of hepatocellular carcinoma. Liver cancer clinic. Periods of development and clinical forms. Diagnostic method. Principle of treatment.Morbidity and mortality. Contributing factor. Pathomorphology: location, macroscopic form, histological structure, and metastasis. Symptoms of pancreatic cancer. Clinical picture depending on the location of the tumor. Diagnostics. A minimum of clinical examination. «Alarm.» Differential diagnosis of jaundice on the basis of a tumor of the head of the pancreas. Modern methods of examination: ultrasound, CT, MRI. Principles of radical and palliative treatment of pancreatic cancer.

**Section 4. Tumors of the female reproductive system.**

**Topic 6. Precancerous diseases and cancer of the breast.**

Topic content: Epidemiology. Morbidity and mortality. Etiology and pathogenesis of breast cancer. Mastitis, etiopathogenesis, classification, clinical features and management tactics. Early diagnosis. Screening. Pathological characteristics of breast cancer. Classification of breast cancer by stages. Clinical variants of breast cancer. The nodular form of cutaneous symptoms. Diffuse and specific breast cancer options. Principles of diagnosis (mammography, ultrasound, MRI, determination of hormonal status). Surgical treatment of breast cancer, the main types of surgery. Radiation therapy of breast cancer. Chemotherapy and hormone therapy for breast cancer. Prevention of breast cancer. Rehabilitation of patients with breast cancer.

**Topic 7. Body and cervical cancer, ovarian cancer.**

Topic content: Structure and General characteristics of malignant and benign tumors of female genital organs. The viral theory of carcinogenesis cancer of the cervix. Epidemiology of cervical and uterine cancer. Background and precancerous diseases of the cervix. Cervical pathology screening. Pathological anatomy of cervical cancer, ways of metastasis, classification, staging. Diagnostic algorithm for suspected cervical cancer. Clinic. Method of treatment. Possibilities of organ-preserving treatment. Forecast. Epidemiology of uterine cancer. Background and precancerous pathology of the endometrium. Variants of the pathogenesis of cancer of the uterus. Uterine cancer clinic. Diagnostics. The main methods of treatment. Forecast.Epidemiology of ovarian cancer. The theory of ovarian tumors. The role of heredity in the pathogenesis of ovarian cancer. Histological classification of ovarian tumors, features of ovarian cancer metastasis. Diagnostic search for ovarian tumor formation. Ovarian cancer clinic. The main methods of treatment of ovarian cancer. The possibilities of organ-saving treatments. Recurrent ovarian cancer. Palliative treatment of ovarian cancer and rehabilitation. Forecast.

**Section 5. Lymphoproliferative disease.**

**Topic 8. hodgkin. Non-Hodgkin's lymphomas.**

The contents of the subject: Hodgkin Disease (LGM). Epidemiology. Modern ideas about the etiopathogenesis. The role of viruses in the etiology of Hodgkin's disease. Histological classification. Staging. Signs of intoxication and their prognostic value. The clinic in the defeat of various groups of lymph nodes. Differential diagnosis of lymphadenopathy. The importance of morphological examination, puncture and surgical biopsy. The volume of diagnostic examination. The importance of diagnostic laparotomy. The choice of treatment method depending on clinical features. Results of treatment, prognosis. Rehabilitation. Morphological characteristics of non-Hodgkin's lymphomas. Differential diagnosis of lymphoproliferative diseases. Principle of treatment. Forecast.

**Section 6. Oncourology.**

**Topic 9. Cancer of the kidney,bladder, prostate.**

Topic content: Epidemiology of cancer of the urinary system. Classification of benign and malignant kidney tumors. Kidney cancer clinic depending on the location of the tumor, diagnosis and staging. Basic principles and methods of treatment of kidney cancer. Theory of bladder cancer. Diagnosis and staging of bladder cancer. The main methods of treatment. Types of surgery on the bladder. The possibility of chemo - and immunotherapy for cancer of the kidney and urinary tract. Epidemiology of prostate cancer. Differential diagnosis of adenoma and prostate cancer. Prostate cancer screening. Clinic. Methods of treatment depending on the stage and age of the patient. Forecast.

**Section 7. Radiation therapy.**

**Topic 10. Types of ionizing radiation and their sources. Methods of radiation therapy. Radiosensitivity and radiomodification.**

Content of the topic: the Concept of radiation therapy, the main stages of development. The concept of cooperation in radiation therapy. The concept of dosimetry, the basic units of dosimetry. The place of radiation therapy in the treatment of cancer patients. The concept of ionizing radiation, types of AI. Sources of AI. Physical and biological effects of AI. The concept of radiosensitivity. The factors influencing the radiosensitivity of the system. Radiomodification, physical and chemical factors. Methods of radiation therapy: external beam radiation therapy. Contact radiation therapy, scope. Systemic radiation therapy, the essence, the main indications.

**Topic 11. Pre-radiation period. Radiation period. Post-radiation period. Complications of radiation therapy and the struggle with them.**

Content topics: pre-treatment period: clinical topometry, the essence, the necessary equipment, planning of radiation therapy. The modes of dose fractionation. The radiation period, its features. Post-radiation period: radiation complications, their classification and control. Radiation therapy of non-tumor diseases. Directions of progress in radiation Oncology.