

**MINISTRY OF HEALTH OF UKRAINE  
LVIV NATIONAL MEDICAL  
UNIVERSITY  
NAMED AFTER DANYLO HALYTSKY  
DEPARTMENT OF DERMATOLOGY, VENEREOLOGY**



**WORKING PROGRAMM OF ELECTIVE COURSE  
«DERMATOONCOLOGY»**

for training of specialists of the second (master's) level of higher education  
field of knowledge 22 "Healthcare"  
specialty "222 "Medicine"

**VI year - Medical Faculty**

**LVIV - 2020**

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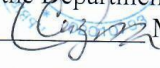

**Department of Dermatology, Venereology**

	<b>APPROVED BY</b> First Pro-rector for scientific and pedagogical work professor M.R. Hzhohotskyy  “ ” 2020
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<b>Discussed and approved</b> at the meeting of Department of Dermatology, Venereology Minutes No. <u>41</u> as of "31" March 2020 Head of the Department  MD, prof. Syzon O.O.	<b>Approved by</b> the field-specific methodological commission for <u>therapeutic</u> discipline Minutes No. <u>6</u> as of "7" <u>05</u> 2020 Head of field-specific methodological commission  prof. Radchenko O.M.
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2020

Working academic program is based on “Regulations on working program of academic discipline and methodological guidelines for its designing” // Under the editorship of corresponding member of NAMS of Ukraine, professor B.S. Zimenkovsky - Lviv, 2015 and standard program of academic discipline: Dermatology, Venereology for the students of higher medical educational establishments having III-IV accreditation levels, major: 7.110106 "Dentistry". - Kyiv 2012.

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*Approved by the field-specific methodological commission of Lviv National Medical University named after Danylo Halytsky*

*Minutes No. 4 as of “\_04\_”\_April\_2018.*

## GENERAL SECTION

Working educational program on the discipline elective course “Dermatooncology” compiled for the specialty “General Medicine” 7.12010001 is aimed at qualitative training of Dentistry faculty students in the field of dermatooncology.

Study of cosmetology is provided during XI-XII semesters of the 6th year of study.

Teaching of dermatooncology is based on students’ learning of such disciplines as dermatology, oncology, anatomy, histology, biophysics, biochemistry, physiology and integrates with these disciplines.

It provides fundamentals for students’ learning of disciplines as dermatology and venereology, oncology, microbiology, surgery and pharmacology.

Lays the foundation for students to study modern ideas about benign and malignant skin tumors, precancerous skin conditions, modern diagnostic technologies, which are widely used in the diagnosis of not only dermatooncological diseases, but also in general clinical practice, that involves the integration of teaching with different disciplines and the formation of skills to apply knowledge of modern diagnostic methods (histopathology, dermatoscopy, molecular methods) and treatment in the process of further training and professional activities.

The study implies obtaining knowledge in etiology, carcinogenesis, epidemiology of skin neoplasms with malignant course, risk factors of its development and needs the integration of classical clinical concepts and modern high-tech diagnostics and treatment of these diseases.

### **The Program is designed in accordance with the following regulatory documents:**

- educational qualification characteristics (EQC), educational and occupational programs (EOP) on training specialists approved by the Order of MoH of Ukraine as on 16 April 2003 No.239 “On approval of components of industry standard of higher education per the field of knowledge 1201 “Medicine”;
- experimental curriculum developed based on the principles of the European Credit Transfer System (ECTS) and recommended by the letter of MoH of Ukraine as of 21 March 2015 No.08.01-47/8986 approved by the Rector of Lviv National Medical University named Danylo Halytsky as on 24 April 2015 No.1226 – 3;
- recommendations on academic disciplines curriculum development approved by the Order of MoH of Ukraine as on 24 March 2004 No.152 “On approval of recommendations on academic disciplines curriculum development” as amended and supplemented by the Order of MoH of Ukraine as of 12 October 2004 No.492 “On amendments and additions to the recommendations on academic disciplines curriculum development”;

- instruction for evaluating educational activity of students in accordance with the provisions of the European Credit Transfer System (ECTS) approved by MoH of Ukraine as on 14 April 2014.

**The discipline Program is structured in 6 thematic modules which end with a credit.**

***Thematic modules:***

1. Propaedeutics in Dermatology
2. Fundamentals of dermatopathology
3. Skin neoplasms with benign course
4. Skin neoplasms with malignant course
5. Modern diagnostic methods in Dermatoooncology
6. Modern therapeutic methods in Dermatoooncology

The ECTS system encourages students to learn systematically during the academic year.

According to the curriculum the types of educational activities are as follows:

- a) practical classes,
- b) individual work of students (ISW);

In its organization the advices given by teachers play a significant role.

Thematic plans of lectures, practical classes and IWS provide implementation of all topics covered by thematic modules into the educational process.

Teachers' counseling on the work of oncological centers plays a significant role in organization of scientific process. Thematic plans for practical classes, individual work provide implementation of all themes included in thematic modules into educational process.

**Description of curriculum for elective course « DERMATOONCOLOGY »**

Structure of academic discipline	Quantity of hours, out of them				Year of studying	Type of control
	Total	Classroom hours		ISW		
		Lectures	Practical classes			
Credit «Dermatoooncology»: Thematic modules – 6	4 ECTS credits/ 120 hours	-	30	90	6th year	credit

Classroom load – 25%, ISW – 75%

## 2. AIM AND OBJECTIVE OF STUDYING ELECTIVE COURSE «DERMATOONCOLOGY »

*The aim of studying DERMATOONCOLOGY – the final objectives* are set on the basis of EOP for training doctors according to the package of its thematic module (natural and scientific training) and is the basis for designing the content of academic discipline:

- to generalize the classification and features of dermatooncological diseases;
- to understand the general course and the clinic of dermatooncological diseases;
- to determine clinical peculiarities of skin tumors with benign and malignant course;
- to interpret modern ideas about the etiopathogenesis of dermatooncologic diseases;
- to explain the role of the different factors that cause the development of skin cancer;
- to determine the algorithm for screening patients at high risk for the development of dermatooncologic diseases or patients with already existing benign and / or malignant tumors of the skin;
- to analyze and to interpret the results of the survey;
- to generalize the principles of early diagnosis of skin malignant tumors, to explain the role of screening tests in the early diagnosis of melanoma of the skin;
- to be able to conduct differential diagnosis of these diseases
- to treat the results of a histopathological study;
- to determine indications for a specific type of therapeutic intervention.

## 3. PROGRAM OF ACADEMIC DISCIPLINE

### Thematic module 1.

#### PROPAEDEUTICS IN DERMATOLOGY

**Topic 1.** History of dermatology, venereology and dermatooncology development. Anatomy, histology and physiology of skin. Age characteristics of the skin. The main types of skin. The influence of various factors on the skin and visible mucous membranes. Methods of examination of skin, its appendages, mucous membranes. Elements of skin rash.

*Anatomy and histology of skin.* Three layers of skin i.e. the epidermis, dermis and subcutaneous tissue (hypodermis), their anatomy and functions. Characteristics of the layers of skin. Anatomical constituents of skin include its appendages, which consist of: sweat glands, sebaceous glands, hair, nails.

Blood and lymphatic vessels in the skin. Nervous system of the skin.

*Skin Functions:* protective, immune, melanin-forming, thermoregulatory, secretory, excretory, <sup>SEP</sup>metabolic, receptor, sorption, respiratory, repository etc. damage to the tissues and organs, breach of circulatory and metabolic processes therein.

*Pathological processes that can develop in the epidermis:* alteration, exudation, acanthosis, acantholysis, dyserkeratosis (hyper-, parakeratosis), granulosis.

*Primary morphological elements of rash:* spot (macula), blister (urtica), vesicle (vesicula), blister/vesicle (bulla), pustulation (pustula), nub (papula), hillock (tuberculum), node (nodus), swelling (tumor), cyst (cista).

*Secondary elements:* secondary pigment spot, scale (squama), erosion (erosio), wound (ulcus), crust (crusta), crust scale (crusta-laminosa), fissure (fissura seu raqades), excoriation (syn. traumatic erosion), scar (cicatrix), scab ("sphacelus"), lichenification (lichenificatio, syn. lichenisatio), vegetation (vegetatio).

Characteristics of the main types of skin.

Age characteristics of the skin.

The influence of various factors on the skin and visible mucous membranes.

## **Thematic module 2.**

### **FUNDAMENTALS OF DERMATOPATHOLOGY**

**Topic 2.** Fundamentals of skin histopathology. Terminology. Method of skin biopsy. Pathohistological technique.

**Topic 3.** Histopathology of skin neoplasms with a benign course.

**Topic 4.** Histopathology of skin neoplasms with malignant course.

## **Thematic module 3.**

### **SKIN NEOPLASMS WITH BENING COURSE**

**Topic 5.** Classification. Etiology. Risk factors. The concept of melanocytic nevi (main groups, clinical features), prognosis. Congenital melanocytic nevus. Non-tumor pigmentation. Epidermal benign neoplasms of the skin and subcutaneous fatty tissue.

**Topic 6.** Precancerous neoplasms of skin (actinic keratosis, xeroderma pigmentosum, leukoplakia). Trigger factors of malignant transformation of the epidermis and others layers of the skin. Facultative paraneoplastic dermatoses. Precancerous neoplasms of skin. COVID - 19 skin manifestations, differential diagnosis with benign and malignant tumors.

#### **Thematic module 4.**

##### **SKIN NEOPLASMS WITH MALIGNANT COURSE**

**Topic 7.** Classification. Etiology and epidemiology of skin neoplasms with a malignant course. Basal cell carcinoma of the skin. Bowen's disease. Erythroplasia of Queyrat.

**Topic 8.** Nonmelanoma skin tumors. Basal cell carcinoma of the skin. Squamous cell carcinoma.

**Topic 9.** Melanoma of the skin. Etiology, epidemiology. Melanoma screening. The main clinical and morphological forms of melanoma and diagnostic methods.

#### **Thematic module 5**

##### **MODERN DIAGNOSTIC METHODS IN DERMATOONCOLOGY**

**Topic 10.** Dermatoscopy. Terminology, equipment, technique. Basic algorithms for evaluation of dermatoscopic images.

**Topic 11.** Dermatological signs of neoplasms with benign and malignant courses.

**Topic 12.** Molecular and immunohistochemical diagnostic methods. Confocal microscopy.

#### **Thematic module 6.**

##### **MODERN THERAPEUTIC METHODS IN DERMATOONCOLOGY**

**Topic 13.** Physical therapeutical methods: curettage, diathermocoagulation, cryotherapy. Radiation therapy.

**Topic 14.** Fundamentals of dermatosurgery. Local anesthesia. Surgical Instruments. Cutting lines of the skin. Micrographic surgery.

**Topic 15.** Phototherapeutic methods: lasers and photodynamic therapy.



**Topic 16.** Medication therapy of skin cancer: topical immunomodulators, chemotherapy, vaccines.

**STRUCTURE OF ACADEMIC DISCIPLINE  
«DERMATOONCOLOGY»**

<b>TOPIC</b>	<b>Practical classes</b>	<b>ISW</b>
History of dermatology and venereology development. Anatomy, histology and physiology of skin. Age characteristics of the skin. The main types of skin. The influence of various factors on the skin and visible mucous membranes. Methods of examination of skin, its appendages, mucous membranes. Elements of skin rash. Preparation for practical classes.	1	12
Fundamentals of dermatopathology. Fundamentals of skin histopathology. Terminology. Method of skin biopsy. Pathohistological method. Histopathology of skin neoplasms with benign course. Histopathology of skin neoplasms with malignant course.	1	16
Classification of skin tumors. Skin neoplasms with nonmalignant course. Precancerous neoplasms of skin. COVID - 19 skin manifestations, differential diagnosis with benign and malignant tumors.	1	16
Etiology and epidemiology of skin neoplasms with malignant course. Risk factors. Molecular and genetic basis of carcinogenesis.	1	16
Dermatoscopy. Terminology, equipment, technique. Basic algorithms for evaluation of dermatoscopic images. Dermatological signs of neoplasms with benign and malignant courses. Molecular and immunohistochemical diagnostic methods. Confocal microscopy.	1	16
Therapeutic methods: physical (curettage, diathermocoagulation, cryotherapy. Radiation therapy. Fundamentals of dermatosurgery. Local anesthesia. Surgical Instruments. Cutting lines of the skin. Micrographic surgery. Phototherapeutic methods: lasers and photodynamic therapy. Medication therapy of skin cancer: topical immunomodulators, chemotherapy, vaccines. Preparation for the credit.	1	14

<b>Total hours - 120-4,0 ECTS Credits</b>	<b>30</b>	<b>90</b>
<b>Final assessment</b>	<b>Credit</b>	

**Note:** Classroom load – 25%, ISW – 75%

### THEMATIC OUTLINE OF PRACTICAL CLASSES

<b>No. p/o</b>	<b>TOPIC</b>	<b>Q-ty of hours</b>
1.	History of dermatology and venereology development. Anatomy, histology and physiology of skin. Age characteristics of the skin. The main types of skin. The influence of various factors on the skin and visible mucous membranes. Methods of examination of skin, its appendages, mucous membranes. Elements of skin rash.	<b>5</b>
2.	Fundamentals of dermatopathology. Fundamentals of skin histopathology. Terminology. Method of skin biopsy. Pathohistological method. Histopathology of skin neoplasms with benign course. Histopathology of skin neoplasms with malignant course.	<b>5</b>
3.	Classification of skin tumors. Skin neoplasms with nonmalignant course. Precancerous neoplasms of skin. Precancerous neoplasms of skin. COVID - 19 skin manifestations, differential diagnosis with benign and malignant tumors.	<b>5</b>
4.	Etiology and epidemiology of skin neoplasms with malignant course. Risk factors. Molecular and genetic basis of carcinogenesis.	<b>5</b>
5.	Dermatoscopy. Terminology, equipment, technique. Basic algorithms for evaluation of dermatoscopic images. Dermatological signs of neoplasms with benign and malignant courses. Molecular and immunohistochemical diagnostic methods. Confocal microscopy.	<b>5</b>
6.	Therapeutic methods: physical (curettage, diathermocoagulation, cryotherapy. Radiation therapy. Fundamentals of dermatosurgery. Local anesthesia. Surgical Instruments. Cutting lines of the skin. Micrographic surgery. Phototherapeutic methods: lasers and photodynamic therapy. Medication therapy of skin cancer: topical immunomodulators, chemotherapy, vaccines.	<b>5</b>

<b>Разом</b>	<b>30</b>
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### THEMATIC OUTLINE OF INDIVIDUAL WORK

<b>No. p/o</b>	<b>TOPIC</b>	<b>Q-ty of hours</b>
1.	Preparation for practical classes.	<b>12</b>
2.	Fundamentals of skin histopathology. Terminology.	<b>16</b>
3.	Pathohistological method.	<b>16</b>
4.	Molecular and immunohistochemical diagnostic methods. Confocal microscopy.	<b>16</b>
4.	Medication therapy of skin cancer: topical immunomodulators, chemotherapy, vaccines.	<b>16</b>
5.	Preparation for the credit.	<b>14</b>
<b>Разом</b>		<b>90 год</b>

### FORMS OF CONTROL

The form of a final control of theoretical and practical material learned by the student according to the discipline program is a **semester credit**. It is the assessment of learned by a student material based on the results of all types of academic works performed by a student, which are foreseen under the Academic Program.

**Continuous control** is carried out during each practical according to the specific objectives for each topic. When assessing students' educational activity it is necessary to give preference to the standard based methods of control: testing, structured written work, structured control of practical skills in conditions close to real.

Criteria of assessment of student's continuous educational activity. The learned topic of each thematic module covered during semester is assessed with marks per the traditional 4-graded scale, which are then converted into points depending on:

**Recalculation of mean mark for the continuous educational activity  
into multi-grade scale:**

4-point scale	200- point scale
5	200
4,97	199
4,95	198
4,92	197
4,9	196
4,87	195
4,85	194
4,82	193
4,8	192
4,77	191
4,75	190
4,72	189
4,7	188
4,67	187
4,65	186
4,62	185
4,6	184
4,57	183
4,52	181
4,5	180
4,47	179

4-point scale	200- point scale
4,45	178
4,42	177
4,4	176
4,37	175
4,35	174
4,32	173
4,3	172
4,27	171
4,24	170
4,22	169
4,19	168
4,17	167
4,14	166
4,12	165
4,09	164
4,07	163
4,04	162
4,02	161
3,99	160
3,97	159
3,94	158

4-point scale	200-point scale
3,92	157
3,89	156
3,87	155
3,84	154
3,82	153
3,79	152
3,77	151
3,74	150
3,72	149
3,7	148
3,67	147
3,65	146
3,62	145
3,57	143
3,55	142
3,52	141
3,5	140
3,47	139
3,45	138
3,42	137
3,4	136

4-point scale	200-point scale
3,37	135
3,35	134
3,32	133
3,3	132
3,27	131
3,25	130
3,22	129
3,2	128
3,17	127
3,15	126
3,12	125
3,1	124
3,07	123
3,02	121
3	120
Less than 3	Insufficient

**The maximum number of points a student can gain for continuous educational activity when studying the discipline is 200 points.**

**The minimum number of points a student can gain for continuous**

**educational activity when studying the discipline is 120 points.**

The form of **semester control** is **semester credit**, which is foreseen under the Academic Program and in terms, based on working thematic outline.

Semester credit – is form of final control based on the mastering level of student on educational material, exclusively based on results of all types of academic works performed by a student. Semester credit calculated is based on the results of continuous control.

*Assessment of individual work of students (individual tasks):*

Assessment of individual work of students, which is included into practical themes, is carried out during continuous control at each practical auditorium class.

Assessment of topics, which are not included into themes of practical classes, is controlled at the final class.

**LIST OF QUESTIONS BROUGHT TO THE FINAL  
(CONTINUOUS) CONTROL**

**GENERAL PART**

1. Brief historical outline of the history of dermatooncology. Anatomy and histology of normal skin. Additional skin elements: hair, hair follicles, nails. Epidermis, as the outer layer of the skin: its structure and functions. Characteristics of the hypodermis. The circulatory and lymphatic systems of the skin. Nervous receptor skin. Glandular apparatus of the skin (sweat and sebaceous glands), its structure and functions.
2. Skin functions: protective, barrier, thermal-regulating, secretory, excretory, resorptive, breathing (respiratory), sensitive, metabolic etc.
3. Histomorphological skin changes: alteration, exudation, proliferation degeneration, acanthoma, acantholysis, dyskeratosis (hyper-, parakeratosis), granulosis.
4. Primary and secondary morphological elements, their description and examples of diseases at which these elements are met.
5. Characteristics monomorphic and polymorphic rashes.
6. Methods of dermatological patient examination. Stages of diagnostic process.
7. Special dermatological methods of patient examination (palpation, diascopy, isomorphic skin reaction test, dermatography, allergic skin tests).
8. Laboratory diagnostic methods (general and specific).
10. Method of examination of the profile patient.
11. Methods of diagnosis used in dermatoconology.
12. Method of skin biopsy. Dermatoscopy as non-invasive diagnostic method.

**SPECIAL PART**

1. Melanocytic nevi.
2. Clinical and histological features of melanocytic nevi of epidermal origin.
3. Blue nevus - as a representative of melanocytic nevi of terminal origin.
4. Benign dermal melanosis (Mongolian spot, nevus) and their features. Congenital melanocytic nevi. Non-tumor pigmentation: freckles, lentigo. Differential diagnostics, prophylaxis.
5. Benign neoplasms of the skin of epidermal origin.
6. Precancerous epithelial neoplasms of the skin. Neoplasms of skin appendages.
7. Diagnosis and histopathology of epidermal nevi. Classification of epidermal nevus: papillomatous, warty, acantolytic (different species), inflammatory linear.
8. Classification of benign epidermal tumors: Seborrheic keratosis, pale cell acanthoma, cutaneous horn.
9. Keratoacanthoma (classification, stages of its development, atypical forms).
10. Warty (viral etiology) skin lesions.
11. Benign tumors of the dermis and subcutaneous fatty tissue.
12. Precancerous epithelial lesions of the skin (actinic keratosis, xeroderma pigmentosum, leukoplakia).
13. Trigger factors of malignant transformation of the epidermis and others layers of the skin.
14. Benign tumors of the sweat and sebaceous glands: papillary eccrine adenoma, adenoma of sebaceous glands. Becker's nevus. Seborrheic nevus.
15. Hair cyst (trichilemmal (pillar) cyst).
16. Facultative paraneoplastic dermatosis (tumor induced cryoglobulinemia, acquired keratoderma of palms and soles, acquired ichthyosis, dermatomyositis in adults, congenital dyskeratosis, Gardner syndrome, Blum syndrome).
17. Kancerogenesis of skin tumors.
18. Immunology of skin tumors.
19. Melanomas (etiology, epidemiology). Melanoma screening.
20. The main clinical and morphological forms of melanoma.
21. Methods of diagnosis of melanoma.
22. General principles of melanoma treatment. Indications for surgical methods, radiation and chemotherapy. Immunotherapy of melanoma.
23. Intra-epidermal forms of squamous cell carcinoma of the skin: Bowen's disease, Erythroplasia of Queyrat.
24. Squamous cell carcinoma and its clinical forms. Methods of treatment.
25. Basal cell carcinoma of the skin.

### **LIST OF RECOMMENDED LITERATURE**

1. Koljadenko V.Gh., Fedorenko O.Je. General issues of the pathogenesis of skin diseases. Dermatological pathology as a medical and psychological problem. Deontology in dermatology. Textbook for student selfeducation. (Ukr). K.:NMU. 2005:20.
2. Koljadenko V.Gh., Fedorenko O.Je. Pyoderma. Textbook for student selfeducation. (Ukr). K.:NMU. 2006:23.
3. Lomotkin I.A. Tumors and tumor-like skin lesions: Atlas. M.: BINOM. 2006:5-6.
4. Oncology: a national textbook under the editorship NAMS of Ukraine G.V. Bondar, Corresponding Member of the National Academy of Sciences of Ukraine Yu.V. Dumansky, Professor O.Yu. Popovych. - Kiev: VSV "Medicine", 2014 – 542 p.
5. Fedych T.G., Slipenky R.R. TNM classification, 7th edition. - Lviv, 2017 – 168 p.
6. Oncology. Textbook - 3rd edition, processed. and add. /B.T. Bilyinsky, N.A.Volodko, A.I.Gnatyshak, A.O.Galyachuk and others; For ed., B.T. Bilyinsky - K. Zdorovaya, 2007 – 52 p.
7. Dermatoconology. Atlas. Molochkova Yu.V., Molochkov A.Z. Publisher: Bmnom, 2015.
8. Lamotkin I.A. Oncodermatology. Atlas. – 87p. - 2017.