MINISTRY OF HEALTH OF UKRAINE

HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE
«BUKOVINIAN STATE MEDICAL UNIVERSITY»

«APPROVED»

Rector,
Higher State Educational Establishment
of Ukraine «Bukovinian State Medical
University»
Professor _____ T. M. Boychuk
«___» _____ 2019

EDUCATIONAL-PROFESSIONAL PROGRAM

Third (educational-scientific) level
(level of higher education)

Doctor of Philosophy (Ph.D.)
(awarded degree)

PROFESSIONAL AREA 22 Health Care
(code and field of knowledge)

SPECIALTY 222 Medicine
(code and specialty)

Chernivtsi, 2019

II – General Characteristics

Higher education level	**Third (educational-scientific) level**
Higher education degree	**Doctor of Philosophy (Ph.D.)**
Professional area	**22 Health Care**
Specialty	**222 Medicine**
Forms of education	**Full-time, distance**
Educational qualification	**Doctor of Philosophy (Ph.D.) in the professional area Health Care on specialty «Medicine»**
Qualification in Diploma	**Doctor of Philosophy (Ph.D.) in the professional area Health Care on specialty «Medicine»**
Description of professional area	• ***The object of medical activity is:*** Ethics, methodology, methods of scientific studies, topical issues of medical science. • ***Objectives:*** to acquire knowledge, abilities and skills, essential to conduct original scientific research, to obtain new facts and their implementation into practical medicine and other spheres of life. • ***Theoretical contents of professional area:*** Ethics and methods of scientific studies; modern methods of scientific studies in medicine and related specialties according to the area of a scientific project; advanced learning of a specialty according to the area of a scientific study; development of communication competence and skills; mastering techniques to present results of a scientific study and other competence • ***Methods, methodology and techniques:*** Educational training of post-graduates is based on lectures, practical classes, seminars, training including distance forms of education. During educational training a post-graduate should master the technology of information search, communication, presentation of the results of the study, writing a thesis etc. • ***Instruments and equipment (objects/subjects, devices and apparatus), which an applicant for***

	higher education studies to use: Up-to-date equipment according to scientific methods assumed to be known during scientific research.
Academic rights of post-graduates:	After a scientific degree of Doctor of Philosophy (Ph.D.) is obtained, a post-graduate has the right to obtain the academic degree of Doctor of Science and be awarded with appropriate academic degrees and scientific titles
Curriculum volume in the credits of the European Credit-Transfer System (ECTS)	Educational-professional curriculum for Doctors of Philosophy (Ph.D.) lasts 4 years and includes educational and scientific parts. The scientific part of the Educational-professional curriculum for Doctors of Philosophy (Ph.D.) assumes performing an original scientific research under the supervision of one or two scientific advisors, and writing its results in the form of thesis. The volume of the Educational-professional curriculum includes 33 ECTS on the basis of Master degree obtained previously. The volume of the Educational-professional curriculum can be extended to 60 credits – under conditions of performing multi-discipline research – as agreed with a scientific advisor and subdivision supervisor. The Curriculum included compulsory and elective educational subjects. The volume of elective courses should include no less than 25%. The volume of the educational-professional training can include credits obtained by a candidate while learning educational courses of an appropriate educational level in other home universities and abroad including on-line ones (if an appropriate certificate of a world standard).

III – Post-graduate competence

Integral competence

Integral competence is the ability to solve complicated specialized issues in the field of professional medical activity, conduct original scientific research and realize research-innovation activity in the field of health care on the basis of a deep rethinking of available and new integral theoretical or practical knowledge and/or professional practical work.

General competence

1. Ability to improve professional qualification
2. Ability to search for, process and analyze information from different sources
3. Ability to find, set and solve issues, generate ideas.
4. Ability to develop and manage projects
5. Ability to communicate in professional surroundings and with representatives of other professions within national and international context
6. Ability to assess and provide the quality of the work executed

Special competence

1.Ability to understand professional area by a chosen scientific field and educational activity
2.Ability to show the requirement in additional knowledge in the sphere of medicine and fields of scientific research, generate scientific hypotheses
3. Ability to define a scientific issue, to develop a project of scientific research
4. Ability to choose the methods and final points of research according to the purposes and tasks of a scientific project
5.Master up-to-date methods of scientific research
6. Ability to interpret the results of scientific research, conduct their correct analysis and generalization
7. Ability to introduce new knowledge (scientific data) into science, education and other public spheres
8. Ability to present the results of scientific research orally and in writing according to the national and international standards
9. Ability to organize and realize pedagogical activity
10. Ability to leadership and staff management
11. Keep to ethics and academic virtue

Matrix of competence

Competence classification according to the National Qualification Frame (NQF)	**Knowledge**	**Abilities**	**Communication**	**Autonomy and responsibility**
Integral competence				
Ability to solve complicated issues in the field of professional medical activity, conduct original scientific research and realize research-innovation activity in the field of health care on the basis of a deep rethinking of available and new integral theoretical or practical knowledge and/or professional practical work.				
General competence				
1. Ability to improve professional qualification	To know: • Regularities of cognitive processes • Strategy of education during life • Methods of productive learning • Theory of value orientations and personality motivation • Fundamentals of rhetoric • Basics of time-management	To be able to: • Use philosophical categories and doctrines • Use methods of self-education • Evaluate motivation level • Improve one's educational and general cultural level continuously	Determine value orientations and personality motivation level Ability to self-education and self-realization Ability to organize one's own time effectively	Formation of systemic scientific outlook and general culture range Development of cognitive possibilities. Ability to self-education and self-realization
2. Ability to search for, process and analyze information from different sources	To know: • Basics of bibliographic search • List of scientometric bases and their value • Leading information resources to search information • Up-to-date information technologies	To be able to: • Use up-to-date information technologies to search and process information • Conduct information search • Analyze and interpret adequately the information from other foreign resources of information	• Use information and communication technologies to search and process information Conduct discussion in the area Analyze information value of scientific data	Ability to complete and many-sided search of information Responsibility for an adequate evaluation and interpretation of the data obtained in the course of scientific search.
3. Ability to find, set and solve issues, generate ideas	To know: Regularities of development in science Stages and regularities of	To be able to: Analyze the data obtained from information resources	Communication with scientific advisors, colleagues and partners during discussion of issues, searching the ways of	Ability to independent and unsupervised thinking, formulation of ideas and suggestion of hypotheses

	cognitive process Stages of research process Basics and terms of creativity		their solution	
4. Ability to develop and manage projects	To know: • Systems of educational and scientific grants on the national and international levels • Terms of participation and technology to prepare an application for grant • Technology of project development	To be able to: • Search for new programs • Prepare a project according to the form of application • Prepare an application to participate in a contest to obtain financial support	Search for partners to form consortium. Be able to use terms, written language competence in the native language and a foreign one to substantiate a project and prepare an application for grant	Independent search, systematization of data, responsibility for the development of a project.
5. Ability to communicate in professional surroundings and with representatives of other professions within national and international context	To know: • Peculiarities to perceive different target groups • Basics of management of conflicts • Fundamentals of rhetoric and theory of argumentation • Professional vocabulary and terminology according to specialty and specialization (area of training) • Foreign language on B2 level • Oral standards of business ethics and speech behavior	To be able to: • Present scientific results in the native language and English orally and in writing; • Communicate with target groups • Perform different social roles • Master the culture of speech, methods of argumentation	Implementation of scientific communication, international cooperation, stand upon one's own scientific opinions Be able to use verbal and nonverbal skills of communication Interaction in the group in order to perform tasks	Continuous improvement of foreign speech culture Spread scientific achievements and ideas
6. Ability to assess and provide the quality of the work executed	To know: • Standards of quality • Criteria of quality assessment • Forms and methods to evaluate results of educational and scientific activity	To be able to: • Monitor educational and scientific processes • Apply effective methods of assessment of cognitive sphere • Develop suggestions concerning its improvement	Interaction, cooperation with colleagues and management, students	Improve the results of one's own activity and results of other people activity Individual responsibility for the results of completion of tasks Virtue, confidence and responsibility for one's own deeds
Special (professional) competence				
1. Ability to understand	To know:	To be able to:	Formulate one's own opinion	Continuous self-education

professional area by a chosen scientific field and educational activity	• Content of the subject (according to specialization) according to future professional activity • Key conceptions by the area of scientific research • Priority areas in the development of science and medicine	• Analyze the main theories and conceptions according to the area of research • Interpret results of the research according to the scientific area chosen	and participate in discussions concerning the main content, methods, new achievements according to the area of scientific research	and self-improvement.
2. Ability to show the requirement in additional knowledge in the sphere of medicine and fields of scientific research, generate scientific hypotheses	To know: • World information resources • Sense of research process • Modern achievements according to the area of scientific research • Modern methods of investigation, their information value, specificity and sensitivity	To be able to: • Conduct critical analysis of modern scientific literature • Assess adequately achievements and restrictions of research according to the scientific area chosen • Determine degree of issue solution and requirements of modern science and medicine	The use of information resources for obtaining information Communication and discussions with professionals in a certain area of scientific activity	Use modern information technologies to search and process information Be able to use methods of scientific research for correct formulation of hypotheses and research issues
3. Ability to define a scientific issue, to develop a project of scientific research	To know**:** • Methodology of scientific research • Principles of generation of statistical and scientific hypotheses • Technology to formulate research issues • Types of systematic errors, methods to prevent them	To be able to**:** • Formulate research issues and hypotheses • Determine design of research • Elaborate the plan of research • Assess effect of interfering factors • Predict systemic errors	Argument and prove advantages of the project developed. Conduct discussion concerning the purpose and tasks of a scientific project Apply knowledge and skills of methodology of scientific research for search of partners	Initiative, independence, responsibility. Prevention of systematic errors while performing scientific research
4. Ability to choose the methods and criteria (final points) of research according to the purposes and tasks of a scientific project.	To know**:** • Modern methods of investigation • Biomarkers of various processes and conditions, their information value • Information criteria to assess the processes, functions and phenomena	To be able to**:** •Choose adequate methods of investigation in order to achieve the purpose and tasks of a scientific project •Interpret results of different methods of investigation	Give arguments of advantages concerning the methods of investigation Discuss information value of the methods of investigation with scientific community, possibility of their improvement and combination	Independent choice of adequate methods of investigation

5. Master up-to-date methods of scientific research	To know • Specificity and sensitivity of different methods of investigation • Methods of investigation by the subject of a scientific project, their possibility and restrictions	To be able to: •Use modern methods of investigation •Use methods of investigation •Modify and improve methods of investigation	Learn the methods of investigation, exchange information and share knowledge with colleagues	Unsupervised performing scientific research Accuracy and reproduction of the results of research
6. Ability to interpret the results of scientific research, conduct their correct analysis and generalization	To know: • Fundamentals of biostatistics • Methods of statistical analysis • Presentation of results of data statistical processing	To be able to: • Substantiate amount of sampling • Formulate statistical hypotheses • Use methods of statistical analysis adequately	Substantiate the chosen methods of analysis and discussion of the data obtained	Responsibility for making analysis of data Obtaining reliable and reproductive results Prevent fraud in data processing
7. Ability to introduce new knowledge (scientific data) into science, education and other public spheres	To know: • Technology of information-patent search • Bases of copyright • Stages and principles of registration of copyright • Technology of getting a patent	To be able to: • Conduct information-patent search • Register intellectual property right • Introduce scientific achievements in educational process	Communication and discussion with professionals in a certain branch of scientific activity Adjust the results of scientific research to curriculum and educational process	Responsible patenting Regular updating of curricula and content of education
8. Ability to present the results of scientific research orally and in writing according to the national and international standards	To know: • Technology of data presentation in the form of posters and presentations • Technology of writing articles in national scientific publications • Requirements and technology of writing articles to international publications • The list of publications with Scopus Web of Science index • Standards to write scientific works	To be able to: • Work in Power Point, Prezi, Adobe Photoshop, Adobe Reader • Prepare presentation • Prepare oral statement • Write an article according to the requirements of a scientific publication	Academic virtue Communication with reviewers and journal editorial staff Argumentation, critical assessment, ability to conduct scientific discussion	Responsibility for the results of scientific research Prevent plagiarism and falsification
9. Ability to organize and realize pedagogical	To know: • Standards of higher education on specialty	To be able to: • Formulate purposes of education and methods of their	Master the bases of didactics, rhetoric, argumentation Apply methods of interactive	Acquire oratorical skill Leadership Ability for self-assessment

activity	• Fundamentals of pedagogy • Didactic bases of problematic learning • Competent approach in projecting and realization of educational activity • Forms of organization of educational-cognitive activity • Principles of student oriented education • Program and content of the subject to be taught	achievement • Determine the content of education and forms of control skillfully • Apply new pedagogical technology • Monitor and manage the educational process • Use modern information technologies to improve education	learning Demonstrate leadership and manage the educational process	and continuous self-improvement Responsibility for efficacy of the educational process
10. Ability to leadership and staff management	To know: • Theory of communication • Mechanisms of effective management • Psychology of leadership	To be able to: • Build effective communication • Manage the staff	Ability to communicate and manage different groups, ability to inspire and motivate students and colleagues	Initiative, leadership and ability to manage Self-realization
11. Keep to ethics and academic virtue	To know: • Research ethics • Legal bases of copyright • Principles to prevent plagiarism, falsification and corruption	To be able to: • Implement educational and scientific activity independently • Present one's own opinions • Make one's own decision • Use information technologies to determine plagiarism signs	Virtuous and responsible implementation of educational and scientific activity Gain confidence and respect among colleagues and students	Responsibility for the results of research Virtue, confidence and responsibility for one's own actions Prevent plagiarism, falsification and corruption

IV. Results of education

1. Demonstrate continuous development of one's own intellectual and cultural level, self-realization
2. Interpret and analyze information applying up-to-date information technologies
3. Determine unsolved issues in in the subject area, formulate issues and determine the ways of their solution
4. Formulate scientific hypotheses, purpose and tasks of scientific research
5. Develop design and plan of scientific research
6. Perform original scientific research
7. Explain principles, specificity and sensitivity of methods of investigation, information value of the chosen indices
8. Possess, improve and introduce new methods of investigation according to the chosen area of a scientific project and educational activity
9. Analyze results of scientific research, apply methods of statistical investigation
10. Introduce results of scientific research into educational process, medical practice and society
11. Present the results of scientific research in the form of presentations, posters and publications
12. Develop communication in professional environment and public sphere
13. Organize educational process
14. Evaluate efficacy of educational process, recommend the ways of its improvement
15. Organize the work of a group/staff (students, colleagues, inter-disciplinary team)
16. Keep to ethical principles in the work with patients, laboratory animals
17. Keep to academic virtue, be responsible for reliability of the scientific results obtained

Curriculum learning outcomes	Competence																
	Integral competence: acquire knowledge, skills and abilities essential for performing original scientific study, which provides getting new knowledge, directed to solution of comprehensive issues in the field of medicine, and is of theoretical and practical value																
	General competence						Special (professional competence)										
	Ability to improve professional qualification	Ability to search for, processing and analysis of information from different sources	Ability to find, set and solve issues, ability to generate ideas	Ability to develop and manage projects	Ability to communicate in professional environment and representatives of other professions in the national and international context	Ability to assess and provide the quality of the work performed	Ability to understand professional area by a chosen scientific field and educational activity	Ability to show the requirement in additional knowledge in the sphere of medicine and fields of scientific research, generate scientific hypotheses	Ability to define a scientific issue, to develop a project of scientific research	Ability to choose the methods and criteria (final points) of research according to the purposes and tasks of a scientific project.	Master up-to-date methods of scientific research	Ability to interpret the results of scientific research, conduct their correct analysis and generalization	Ability to introduce new knowledge (scientific data) into science, education and other public spheres	Ability to present the results of scientific research orally and in writing according to the national and international standards	Ability to organize and realize pedagogical activity	Ability to leadership and staff management	Keep to ethics and academic virtue
	1	**2**	**3**	**4**	**5**	**6**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Development of one's own intellectual and cultural level, self-realization	+++	+++	++	+	+	+	+	+	++	++	++	++	+++	++	+++	+++	++
Interpret and analyze information applying up-to-date information technologies	++	+++	++	+	+	+	+++	+++	++	+	+	++	+	-	-	+	+

Determine unsolved issues in in the subject area, formulate issues and determine the ways of their solution	++	+++	+++	+	++	+	+++	+	+++	+++	-	+	-	+	-	-	+
Formulate scientific hypotheses, purpose and tasks of scientific research	+	+	+++	++	+	+	++	+++	+++	+++	+	+	-	-	-	-	-
Develop design and plan of scientific research	++	++	++	+++	++	+++	+++	+++	+++	+++	-	-	-	+	-	-	+
Perform original scientific research	+++	+	+	+	++	+++	+++	+	+	++	+++	+++	+	+++	-	+	+++
Explain principles, specificity and sensitivity of methods of investigation, information value of the chosen indices	++	+	+	+	++	+++	++	+	+	+++	+++	+++	+++	++	-	-	+++
Possess, improve and introduce new methods of investigation	+++	+++	+++	+	+++	+++	++	+++	-	+	+++	++	+++	++	-	+	++

according to the chosen area of a scientific project and educational activity																		
Analyze results of scientific research, apply methods of statistical investigation	++	+++	+++	+	+	+		+++	+++	+	++	+++	+++	++	++	-	-	++
Introduce results of scientific research into educational process, medical practice and society	+	+++	+	+	+	+		+++	+++	-	-	-	-	+++	+++	+++	+	++
Present the results of scientific research in the form of presentations, posters and publications	++	+	+	+	+++	+		+++	++	+	+	+	+	+++	+++	+	+	+++
Develop communication in professional environment and public sphere	+	+	+	-	+++	+		++	+++	+								
Organize educational process	+++																	

Evaluate efficacy of educational process, recommend the ways of its improvement	+++																	
Organize the work of a group/staff (students, colleagues, inter-disciplinary team)	+++																	
Keep to ethical principles in the work with patients, laboratory animals	+																	
Keep to academic virtue, be responsible for reliability of the scientific results obtained	+++																	

Notes: the number of symbols «+» reflects the effect of the component and formation of the program results of education.

«+++» – the component dominates

«++» – the component is sufficient

«+» – the component does not contribute considerably

«-» – the component is not mastered

V – Forms of qualifying evaluation for higher education applicants to get Doctor of Philosophy (Ph.D.)

Forms of qualifying evaluation for higher education applicants to get Doctor of Philosophy (Ph.D.)	Qualifying evaluation of the curriculum – according to ECTS (considering the total amount of credits and level of mastering every educational course) Public presentation of scientific achievements in the form of a thesis A post-graduate is allowed for presentation his/her thesis only after completion of the professional-educational curriculum
Requirements for the final qualification work	• a post-graduate conducts scientific investigation according to the individual plan of scientific work approved by the Academic Council; • the individual plan of scientific work is a separate document developed on the basis of the educational-scientific curriculum and used for evaluation of successful completion of a planned scientific work; • the individual plan of scientific work is completed by thesis presentation; • the thesis is a creative independent scientific-research work performed by a post-graduate under the observation of a scientific advisor; • the thesis should be a result of a completed creative work and should be indicative of the fact that the author masters up-to-date methods of investigation and is able to solve professional-scientific tasks having theoretical and practical value in the field of public health independently; • the thesis should be written in Ukrainian or English; it should contain precise, understandable definitions of statements, obtained results etc.; • the post-graduate, the author of the thesis, bears responsibility for all the information contained in the thesis, the order of use of real material and other sources while writing it, substantiation of the conclusions and statements presented in it; • the thesis must be processed according to the current requirements; • expert boards of the institutions responsible for the thesis learn the issues concerning availability of absence of text borrowings, the use of ideas, scientific results and materials of other authors without references to a source; • the content of the thesis is made public on the University official site
Requirements for public presentation of a qualification work	• the procedure and terms of public presentation of the thesis correspond to the current Regulations and legislation

VI – Requirements to the system of internal provision of higher education quality

Principles and procedures to provide the quality of education	Determined and validated in the following documents: the Law of Ukraine «On Higher Education» dated 01.07.2014, № 1556-VII, «Standards and Recommendations Concerning Provision of Quality in the European Space of Higher Education» of the European Association and provision of higher education quality, National Standard of Ukraine «Systems of Quality Management», State Standard of Ukraine ISO 9001:2009. Principles to support quality of education: • compliance with European and National standards of higher education quality; • autonomy of a higher educational institution responsible for provision of quality of educational work and quality of higher education; • monitoring of quality; • systemic approach assuming management of quality at all the stages of educational-scientific process; • continuous improvement of quality of educational-scientific process; • transparency of information at all the stages of providing quality. Procedures to provide quality of education: • provide research and educational environment; • improvement of planning educational activity: monitoring and periodical updating of the curriculum; • qualitative selection of a group of higher education applicants for educational-scientific degree of Doctor of Philosophy; • qualitative selection of scientific advisors to train Doctor of Philosophy; • improvement of material-technical and scientific-methodical bases to realize the curriculum; • provide essential resources to finance training of higher education applicants for Doctor of Philosophy level; • development of information systems with the aim to

	improve efficacy of management of the educational-scientific process; • provide information concerning the activity of higher educational institution (HEI) open to public; • creation of effective system to prevent and find academic plagiarism in scientific papers of HEI workers and higher education applicants for Doctor of Philosophy level; • creation of effective system to prevent corruption and bribery in the educational process of HEI.
Monitoring and periodical review of the curriculum	Educational-scientific process for Doctor of Philosophy level is implemented according to the standards of higher education and the curriculum developed on its basis. Monitoring and periodical review of the curriculum is carried out according to the regulations approved at HEI. Criteria of the curriculum review are defined as a result of reverse relations with the scientific-pedagogical staff, post-graduates, employers, and as a result of prediction in the development of a certain area, society requirements and labor market. Indicators of up-to-dateness of the curriculum are: • updating according to the current state of medicine; • participation of employers in the development and changing the curriculum; • positive comments of reviewers on the curriculum; • the level of satisfaction of post-graduates in the content of the curriculum; • positive comments of employers, scientific opponents and reviewers on the level of training of post-graduates.
Annual evaluation of higher education applicants	Knowledge, skills and abilities of post-graduates are evaluated at HEI on the basis of its own regulations on the organization of educational process. The evaluation system of quality of training post-graduates includes: initial, current, semester, annual, final tests. During annual certification a post-graduate presents a report to the Post-Graduate Department at HEI concerning implementation of the plan of the curriculum once a year.

Professional advanced training of the scientific-pedagogical, pedagogical and scientific staff	Professional and teaching staff of HEI improves qualification in Ukraine and abroad. HEI provides different forms of professional advanced training of the scientific-pedagogical staff no less than once in 5 years according to the schedule approved by the HEI Academic Council and put into operation by Rector's order. HEI has the right to realize its own curriculum and forms of professional advanced training (seminars, master-classes, training, conferences, webinars, round-table discussions, schools of pedagogical skills etc.).
Essential resources available for organization of the educational process	Resources to organize training of Doctors of Philosophy at HEI are the following: • standards of higher education according to the educational-scientific level of Doctor of Philosophy on specialty 222 Medicine; • HEI curriculum on training Doctors of Philosophy; • HEI regulations on training Doctors of Philosophy; • working educational plan; • working educational programs on different subjects. According to the current licensed terms: • proper educational-methodical provision (complexes) of the educational subjects; • up-to-date information sources and computer equipment; • own web-site of a department responsible for training Doctors of Philosophy; • internet communication; • library with modern educational literature, scientific, reference and professional periodical publications; • technical aids of education; • practical bases available for all the types of practical training; • proper staff provision for teaching educational subjects.

Information systems available for effective management of educational process	Electronic system of collection and analysis of information and others. The system of electronic document circulation. Electronic box.
Information on the curriculum, degrees of higher education and qualification open to public	The HEI official site presents: statutes, own regulations on the organization of educational process, admission policies, degrees of higher education, according to which professionals are trained including those for Doctors of Philosophy, the main information on the curriculum etc.
Prevent and find academic plagiarism	Procedures and measures: • formation of HEI staff that do not accept academic dishonesty; • create conditions of intolerance for cases of academic plagiarism; • organization of expert boards to find academic plagiarism in scientific articles, textbooks, educational and methodical publications, theses etc.; • finding and calling to account those who are guilty in academic plagiarism.

AUTHORS of the Curriculum:

Head, Project Group:
Professor, Department of Oncology and Radiology,
HSEE of Ukraine ”Bukovinian State Medical University”,
Doctor of Medicine, Professor O.I.Ivashchuk

Members of the Project Group:

Head, S.M. Savenko Department of Nervous Diseases, Psychiatry and Medical Psychology, HSEE of Ukraine
”Bukovinian State Medical University”,
Doctor of Medicine, Professor V.M.Pashkovskui

Head, Department of Medical Biology and Genetics,
HSEE of Ukraine ”Bukovinian State Medical University”,
Doctor of Medicine, Professor R.Ye.Bulyk

PREDICTED TOPICS OF RESEARCH

- *on specialty «Obstetrics and Gynecology»*

- Determine new scientific areas on specialty «Obstetrics and Gynecology», theoretical and practical issues of medicine in this area.
- Master terminology in the investigated scientific area.
- To study newest methods of investigation and treatment in obstetrics and gynecology.
- Determine etiological and pathogenic factors of the most common obstetric-gynecological pathology.
- Analyze typical and atypical clinical manifestation of the most common obstetric-gynecological pathology, find their complications.
- Make up a plan of examination and analyze laboratory findings and results of instrumental examinations of the most common obstetric-gynecological pathology, find their complications.
- Make differential diagnostics, substantiate and define the diagnosis.
- Diagnose and give medical aid in urgent conditions in obstetrics and gynecology.

- *specialty «Internal diseases»*

- Determine new scientific areas on specialty «Internal diseases», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in therapy;
- Determine etiological and pathogenic factors of the most common diseases of the internal organs;
- Analyze typical and atypical clinical manifestation of the most common diseases of the internal organs, find their complications;
- Make up a plan of examination and analyze laboratory findings and results of instrumental examinations of the most common diseases of the internal organs and their complications, evaluate prognosis concerning life and ability-to-work of patients;
- Make differential diagnostics, substantiate and define the diagnosis of the most common diseases of the internal organs;
- Determine the tactics of management (recommendations concerning regimen, pharmacological treatment, diet recommendations, rehabilitation measures) of a patient with the most common diseases of the internal organs and their complications;
- Diagnose and give medical aid in urgent conditions in clinics of internal diseases.
- Make primary and secondary prevention, rehabilitation of patients with the most common diseases of the internal organs.

- *on specialty «Hygiene»*

- acquire deep knowledge on modern hygiene;
- interpret the main laws of hygienic science and general regularities of health and environmental factors;
- be able to use a positive effect of environmental factors for primary, secondary, tertiary prevention of diseases in practical medical work;
- plan measures concerning healthy life style and introduce them into practical medical work;
- master knowledge on negative environmental factors, determine their relations with health status, and develop preventive measures according to the fundamentals of the current legislation of Ukraine;
- interpret principles of hygienic standards, methods and means of hygienic studies, their use in conducting preventive and current observation;
- master ability to organize and deliver classes;
- acquire abilities and skills concerning organization and conducting educational-methodical and extra-curricular work;

- *on specialty «Pediatric Surgery»*

- extend knowledge in etiology, pathogenesis, clinical signs, diagnostics and treatment of surgical diseases in children;
- Determine new scientific areas on specialty «Pediatric Surgery», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in pediatric surgery.

- *on specialty «Cardiology»*

- Determine new scientific areas on specialty «Cardiology», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in cardiology;
- Determine etiological and pathogenic factors of the most common cardio-vascular diseases;
- Analyze typical and atypical clinical manifestation of the most common cardio-vascular diseases, find their complications;
- Make up a plan of examination and analyze laboratory findings and results of instrumental examinations of the most common cardio-vascular diseases and their complications, evaluate prognosis concerning life and ability-to-work of patients;
- Make differential diagnostics, substantiate and define the diagnosis of the most common cardio-vascular diseases;
- Determine the tactics of management (recommendations concerning regimen, pharmacological treatment, diet recommendations, rehabilitation

measures) of a patient with the most common cardio-vascular diseases and their complications;
- Diagnose and give medical aid in urgent conditions in cardiology.
- Make primary and secondary prevention, rehabilitation of patients with the most common cardio-vascular diseases.

- *on specialty «Neurology»*
- Determine new scientific areas on specialty «Modern Neurology», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in neurology;
- Determine etiological and pathogenic factors of the most common neurological diseases;
- Analyze typical and atypical clinical manifestation of the most common neurological diseases, find their complications;
- Make up a plan of examination and analyze laboratory findings and results of instrumental examinations of the most common neurological diseases and their complications, evaluate prognosis concerning life and ability-to-work of patients;
- Make differential diagnostics, substantiate and define the diagnosis of the most common neurological diseases;
- Determine the tactics of management (recommendations concerning regimen, pharmacological treatment, diet recommendations, rehabilitation measures) of a patient with the most common neurological diseases and their complications;
- Diagnose and give medical aid in urgent conditions in neurology.
- Make primary and secondary prevention, rehabilitation of patients with the most common neurological diseases.

- *on specialty «Normal Anatomy»*
- acquire substantial knowledge in human anatomy and related specialties;
- study substantially the principles of interdependence and integrity of structures and functions of human organs, their changeability under the effect of ecological factors;
- acquire skills of interpretation of sexual, age and individual peculiarities of the human body structure;
- acquire fundamental knowledge on topographic-anatomical interrelations of the human organs and systems;
- acquire deep knowledge on prenatal and early postnatal development of the human organs, variants of changeability of organs and developmental defects;
- master the technique of dissection, morphometry and up-to-date methods of investigation in morphology;

- train skills and abilities to analyze images of anatomical objects, structures, make statistical processing of the obtained results;
- master ability to organize and deliver practical classes;
- acquire skills and abilities of educational-methodical and extra-curricular work.

- *on specialty «Oncology»*

- Determine new scientific areas on specialty «Oncology», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in oncology;
- Determine etiological and pathogenic factors of the most common malignant formations;
- Analyze typical and atypical clinical manifestation of the most common oncological diseases;
- Make up a plan of examination and analyze laboratory findings and results of instrumental examinations of the most common malignant diseases and their complications, evaluate prognosis concerning life and ability-to-work of patients;
- Make differential diagnostics between malignant and benign tumors, substantiate and define clinical diagnosis;
- Determine the tactics of management (recommendations concerning regimen, pharmacological treatment, diet recommendations, rehabilitation measures) of a patient with suspected malignant tumor;
- Diagnose and give medical aid in urgent conditions in oncology.

- *on specialty «Pathologic Physiology»*

- acquire substantial knowledge in pathologic physiology and related specialties;
- explain the major notions of general nosology: health, disease, pathological process, typical pathological process, pathological reaction, pathological condition, etiology, pathogenesis;
- acquire fundamental knowledge on the development and introduction of molecular-genetic methods of diagnostics, regeneration medicine, cellular technologies etc.;
- analyze different variants of development of the cause-effect interrelations in pathogenesis;
- evaluate the value of modern methods of investigations (experimental and clinical) for pathophysiology;
- master ability to organize and deliver practical classes;
- acquire skills and abilities of educational-methodical and extra-curricular work;

- acquire skills to apply up-to-date information technologies in teaching pathological physiology.

- *on specialty «Pediatrics»*
- formation of the skills of independent scientific-research and pedagogical activity;
- comprehensive learning of theoretical and methodological bases of pediatrics;
- improvement of philosophic education, and directed to professional activity in the field of pediatrics in particular;
- improvement of knowledge of a foreign language to be used in professional activity.

- *on specialty «Social Medicine»*
- interpret theoretical bases, modern principles and legal bases in health care;
- define and analyze the main indices of public health in relations with effecting factors;
- develop measures concerning health of population and its certain groups;
- evaluate organization and quality of giving different types of therapeutic-preventive aid and sanitary-epidemiological provision of population well-being under conditions of reforming public health;
- interpret notions concerning loss of ability-to-work, its kinds, the order of organization of expertise for ability-to-work;
- interpret the laws and principles of management; elaborate management decisions directed to improvement of work of the main institutions of public health.

- *on specialty «Forensic Medicine»*
- Determine new scientific areas on specialty «Modern Forensic Medicine», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in forensic medicine;
- Make up a plan of investigation of biological mannequin, analyze laboratory finding and results of instrumental examinations with expert and experimental studies;
- Be able to describe body injuries according to the common scheme of their description;
- Analyze the stages of investigation in forensic medicine, be able to write appropriate documents at every stage of investigation;
- Conduct laboratory examinations, substantiate and interpret them in case of violent and non-violent deaths.

- *on specialty «Urology»*

- Determine new scientific areas on specialty «Urology», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in urology;
- Determine etiological and pathogenic factors of the most common diseases of the urinary system and reproductive male system;
- Analyze typical and atypical clinical manifestation of the most common urological diseases, find their complications;
- Make up a plan of examination and analyze laboratory findings and results of instrumental and radiological examinations of the most common urological diseases and their complications, evaluate prognosis concerning life and ability-to-work of patients;
- Make differential diagnostics, substantiate and define the diagnosis of the most common urological diseases;
- Determine the tactics of management (recommendations concerning regimen, pharmacological treatment, diet recommendations, rehabilitation measures) of a patient with the most common urological diseases and their complications;
- Diagnose and give medical aid in urgent conditions in urology.
- Make primary and secondary prevention, rehabilitation of patients with the most common urological diseases.

- *on specialty «Surgery»*

- Determine new scientific areas on specialty «Surgery», theoretical and practical issues of medicine in this area;
- Master terminology in the investigated scientific area;
- To study newest methods of investigation and treatment in surgery;
- Determine etiological and pathogenic factors of the most common surgical diseases;
- Analyze typical and atypical clinical manifestation of the most common surgical diseases, find their complications;
- Make up a plan of examination and analyze laboratory findings and results of instrumental examinations of the most common surgical diseases and their complications, evaluate prognosis concerning life and ability-to-work of patients;
- Make differential diagnostics, substantiate and define the diagnosis of the most common surgical diseases;
- Determine the tactics of management (recommendations concerning regimen, pharmacological treatment, diet recommendations, rehabilitation measures) of a patient with the most common surgical diseases and their complications;
- Diagnose and give medical aid in urgent conditions in surgery.

- Perform surgery, specialized diagnostic and therapeutic manipulations.
- Make primary and secondary prevention, rehabilitation of patients with the most common surgical diseases.