

Odessa National Medical University

Medical Faculty №3, International Faculty Department of Occupational Pathology and Functional Diagnostics

Syllabus of selective discipline. Basics of clinical and laboratory diagnostics

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| Volume | 45 hours / 1.5 ECTS credits |
| Semester, year of study | X semester V course |
| Days, time, place | According to the approved schedule of classes of the Department of Occupational Pathology and Functional Diagnostics. Forms of study: full-time. |
| Teacher (s) | MD, prof. Ignatiev O.M., PhD, Associate Professor Panyuta O.I., PhD, Associate Professor Oparina T.P., PhD, Associate Professor Yamilova T.M. assistants: Dobrovolska O.O., Katashinskaya N.M. |
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| Workplace | Department of Occupational Pathology and Functional Diagnostics, Therapeutic Department of the ORCMC, Clinical and Diagnostic Laboratory of the Multidisciplinary Medical Center of ONMedU |
| Consultations | Consultations are conducted according to the schedule approved by the head of the department |

COMMUNICATION

Communication will be carried out in person and using the social network Internet, Telegram, WhatsApp

Language of education: English.

COURSE ANNOTATION

The subject of study of the elective discipline is theoretical knowledge and practical skills in organizing laboratory research in the field of health; diagnosis and control of treatment of the most typical diseases.

Prerequisites: medical chemistry, biological and bioorganic chemistry, medical and biological physics, pathophysiology, pathomorphology,

organization and economics of health care, internal medicine, tuberculosis, dermatology, psychiatry, narcology, otorhinolaryngology, neurology, traumatology and orthopedics

Postrequisites: internal medicine, infectious diseases, otorhinolaryngology, epidemiology, neurology, dermatology, occupational diseases, oncology, health care organization, traumatology and orthopedics, allergology.

The purpose of studying the elective course is the formation, assimilation and systematization of knowledge and skills on the analytical and clinical foundations of laboratory diagnostics, which will plan, organize, independently conduct and interpret laboratory studies of biological material; rationally use laboratory algorithms for various forms of pathology.

Acquisition / acquisition of competencies.

- integral:

Ability to solve complex problems and problems in a particular field of professional activity or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

- general:

GC1. Ability to abstract thinking, analysis and synthesis.

GC2. Ability to know and understand the subject area and professional activity.

GC3. Ability to communicate in the state language.

GC4. Ability to learn and master modern knowledge, use information and communication technologies, the ability to search, process and analyze information from various sources.

GC5. Ability to adapt and make an informed decision in a new situation.

GC6. Ability to work in a team.

GC7. Ability to work in an international context, to communicate in a foreign language.

GC8. Ability to evaluate and ensure the quality of work performed.

GC9. Ability to act on the basis of ethical considerations, socially responsibly and consciously.

GC10. Ability to be aware of equal opportunities and gender problems; appreciate and respect diversity and multiculturalism.

- special (professional, subject):

SC1. Communication skills and clinical examination of the patient

SC2. Ability to determine the list of required clinical, laboratory and instrumental studies and evaluate their results.

SC3. Ability to establish a preliminary and clinical diagnosis of the disease.

SC5. Ability to diagnose emergencies.

SC6. Ability to determine tactics and provide emergency medical care.

SC8. Ability to perform medical manipulations.

SC10. Ability to plan and carry out sanitary and hygienic and preventive measures.

SC14. Ability to keep medical records.

Specific learning objectives

The main tasks in the study of theoretical and practical course of laboratory diagnostics are:

- acquaintance with the basic modern clinical and laboratory methods of examination of the patient;
- study of the basic clinical and laboratory methods of research of biological liquids (blood, urine, sputum);
- acquaintance with the main clinical and laboratory signs of the most common diseases in the clinic of internal medicine;
- acquisition of skills of work with the modern diagnostic equipment;
- acquisition of skills of analysis and interpretation of results of clinical and laboratory researches of the patient;
- study of typical changes in clinical and laboratory tests under the influence of drugs that may indicate the development of side effects of drugs;
- mastering the principles of using these clinical and laboratory studies to assess the effectiveness and safety of drugs.

Learning outcomes:

Integrative final program learning outcomes, the formation of which is facilitated by the discipline:

- conduct professional activities in social interaction based on humanistic and ethical principles;
- identify future professional activities as socially significant for human health;

- apply knowledge of general and professional disciplines in professional activities;
- comply with the norms of sanitary and hygienic regime and safety requirements in carrying out professional activities;
- use the results of independent search, analysis and synthesis of information from various sources to solve typical problems of professional activity;
- adhere to the principles of deontology and ethics in professional activities;
- to carry out professional communication in modern Ukrainian, to use skills of oral communication in a foreign language, analyzing texts of professional orientation and to translate foreign language information sources;
- adhere to the norms of communication in professional interaction with colleagues, management, work effectively in a team;
- analyze the information obtained as a result of scientific research, summarize, systematize and use it in professional activities.

The ultimate goals of the discipline

- to form a systematic knowledge of modern laboratory research methods and the possibility of their use in the practice of the doctor;
- to master the general principles of interpretation of the results of clinical and laboratory examination of the patient;
- to master the basic principles and patterns of changes in clinical and laboratory parameters under the influence of various drugs to control the action of drugs in order to increase the effectiveness and safety of drug therapy;
- to acquire basic skills of conducting the most common clinical and laboratory tests of patients.

Program learning outcomes:

PLO2. Evaluate information about the diagnosis using a standard procedure, based on the results of laboratory and instrumental studies. Determine the list of necessary clinical, laboratory and instrumental studies and evaluate their results (according to list 4).

PLO5. Diagnose emergencies (according to list 3).

PLO 8. Perform medical manipulations

PLO 10. To plan and carry out sanitary and hygienic and preventive measures.

PLO 14. Maintain medical records.

PLO 18. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.

COURSE DESCRIPTION

Types of classes: lectures, practical classes, independent work.

Teaching methods: verbal, explanatory-demonstration, practical, visual, work with a book, video-method, work in groups, discussions, solving situational problems, application of methods of modeling clinical situations, etc.

Practical classes are held on the basis of the department and clinical laboratory of the Multidisciplinary Medical Center (University Clinic). The method of organizing practical classes on laboratory diagnostics requires:

- to master practical skills in laboratory examination; skills of cooperation with structural divisions of laboratory diagnostics, communication with employees of clinical laboratories;
- to form an understanding of responsibility for the level of their training in laboratory diagnostics and the need to improve knowledge and skills during training and professional activities.

To implement the relevant module specified in the first lesson, it is necessary to provide a detailed work plan and provide conditions for its implementation. This plan should include:

- research that needs to be mastered (or read);
- algorithms (protocols) of examinations, diagnosis, assessment of treatment quality in accordance with the standards of evidence-based medicine;

Practical classes are held with the inclusion of:

- 1) control of the initial level of knowledge with the help of test questions, compiled in the format of a question with 5 answer options, of which 1 - correct and checking workbooks;
- 2) appointment of 1-2 patients with diseases and conditions relevant to the subject, followed by discussion of the correctness of the examination plan for diagnosis, differential diagnosis and treatment using the principles of evidence-based medicine and in accordance with National and European guidelines and protocols;
- 3) consideration of the need for additional laboratory research methods used in the diagnosis and differential diagnosis, consideration of which is provided by the topic of practical training;
- 4) control of the final level of knowledge on the test tasks made in the A format.

CONTENT OF THE PROGRAM

Section 1. Introduction to laboratory diagnostics

Section 2. General clinical studies

Section 3. Biochemical research

Section 4. Methods of research of systems and bodies

List of recommended literature:

1. Medical biochemistry/ Давыдов В.В., Вавилова Т.П. и др. Изд-во Вектор.-2018,392с.

2. Clinical diagnostics by laboratory methods / Willard M.D..-2012.-432p.

3. Guidelines for the lectures, practical trainings and IWS./ composed by The Department of occupational diseases and functional diagnosis,2020.

4. Biochemistry of connective tissue. Biochemistry of mixed saliva/под ред. А.И.Глухова, Е.В.Бабченко.-2019.-128р.

Information resources:

1. Official site of the Ministry of Health of Ukraine <https://moz.gov.ua>

2. Site of the All-Ukrainian Association of Laboratory Diagnostics
<http://acclmu.org.ua>

EVALUATION

Assimilation of the topic (current control) is controlled in the practical lesson, assimilation of the content module (final control) - in the final lessons.

Methods of current control: test tasks, solving situational problems, conducting laboratory tests and evaluating their results, which characterize the functions of the human body, control the acquisition of practical skills.

Current educational activities are controlled in practical classes in accordance with specific goals. The following means of determining the level of training are used: test control, solving situational problems, control of practical skills, in particular - the ability to correctly prescribe and interpret the results of laboratory tests, justify the diagnosis based on analysis of clinical and auxiliary examination methods.

Means of diagnostics of learning success: individual tasks, presentations, questions for current control, test tasks, situational tasks, results of laboratory researches, questions for final control.

Forms and methods of final control: complex testing on paper with manual verification, comprehensive test (oral and written).

The final control of laboratory diagnostics is made at the last lesson to the head or associate professor of the department, according to the schedule.

Assessment of success in the discipline is a rating and is set on a multi-point scale, taking into account the assessment of the mastery of individual topics.

The discipline is evaluated in accordance with the "Regulations on the organization of the educational process at the Odessa National Medical University."

Independent work

Independent work is 55% of the curriculum, is an integral part of educational activities and is included in the ECTS credits of each module and discipline as a whole. It includes:

- preparation for practical classes;
- implementation and protection of IWS;
- mastering practical skills;
- preparation for final control;

Independent works on the sample program are made out in writing, performance control is carried out in the relevant practical classes. Verification of the mastered material on the subject of independent work is carried out on the final modular control.

COURSE POLICY

The policy of the academic discipline is built taking into account the norms of the legislation of Ukraine on academic integrity, the Charter, the provisions of ONMedU and other normative documents.

The student is obliged to fully master the knowledge skills, practical skills and competencies in the discipline. At this must take into account the presence and activity of the student during practical classes.

Students are not allowed to write off, use any kind of software, tips, use a mobile phone, tablet or other electronic gadgets during the lesson.

Students are not allowed to attend practical classes. For the period of distance learning chats are used Ms Teams, Viber, WhatsApp, Telegram. Online classes at the department are conducted using the distance learning system Ms Teams, ZOOM. Each student must connect to the webinar room in a timely manner. Online classes include on-screen and oral demonstration of learning materials dialogue between teacher and students.

Policy on deadlines and rescheduling: skipping classes, sick leave are worked out according to the schedule of work of the department with the permission of the dean's

office, in accordance with the regulations of the university. Rearrangement of differential credit with the permission of the dean's office.

Behavior in the audience: according to the moral and ethical code of ONMedU.