

**Methodological guidelines for the discipline (module)**

**Б1.В.01 Clinical Aspects of Laboratory Diagnostics**

Educational programme **31.05.01 General Medicine**  
Specialization **General Medicine (in a foreign language)**

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Methodological guidelines for the discipline (module) **E1.B.01 Clinical Aspects of Laboratory Diagnostics** were reviewed and approved at the Clinical Medicine Department meeting dated March 12, 2024, record no. 7.

## General provisions

The purpose of the present guidelines is to provide students with a well-organised learning process, including various self- study activities.

Mastering the discipline requires both in-class learning and self-study work. In-class learning includes lectures and seminars. In- class learning is specified in the programme curriculum and course (module) syllabus.

First, it is recommended to review the discipline (module) syllabus, its structure, contents and assessment methods prior to starting the course.

While reviewing the syllabus, pay attention to the following:

- Some topics and units are not covered during lectures instead students are required to do self- study according to the recommended list of main and supplementary literature and educational and methodological manuals;
- Covered theory, methodology and formulas included in the self- study topics and units should be self- assessed according to self-check questions;
- The content of self-studied topics is integrated in the formative and interim assessment.

Each discipline (module) syllabus is accompanied by methodological materials.

Some educational and methodological manuals for the discipline, such as study aids or lecture notes, guidelines to laboratory work and case study, etc., can be found on MAU Electronic Information and Educational Environment (LMS Moodle).

Students are also suggested to get educational literature needed for all types of in-class learning, as well as self-study work, from MAU library.

Types of academic work, scheduled deadlines, as well as assessment system are compiled in the discipline checklist.

**Table 1. Formative and interim assessment checklist  
B1.B.01 “Clinical Aspects of Laboratory Diagnostics”  
(interim assessment – “credit”)**

№	Milestones	Credit points		Assessment period (weeks)
		min	max	
<b>Formative assessment</b>				
1.	Seminars	16	25	as per the timetable
2.	Written report	12	20	as per the timetable
3.	Test	12	20	as per the timetable
4.	Class attendance	14	20	as per the timetable
5.	Timely performance	6	15	as per the timetable
	Points for semester in total	min - 60	max - 100	
<b>Interim assessment - credit</b>				
	<b>Final credit score on the discipline</b>	<b>min - 60</b>	<b>max - 100</b>	

Mastering the discipline (module) requires a systematic approach. It is necessary to regularly attend lectures, actively participate in class discussions, do written assignments, study lecture notes, and devote time and effort to self-study on the discipline (module) to successfully learn theoretical material on the discipline.

To successfully complete the course (module), students should independently manage the study load according to the study schedule.

### 1. Guidelines to lectures

Lectures and similar sessions are presentations of study material given by a lecturer.

A lecture is a presentation of educational material, usually of a theoretical nature, by the teacher. The purpose of lectures is to provide students with knowledge essential to the discipline (module).

Sometimes lectures represent the main source of information, e.g. with the absence of textbooks and educational manuals; when new scientific data on a topic is not covered in textbooks; some chapters and topics are very difficult for self- study.

During lectures it is advisable to take notes.

The following aspects should be noted most accurately and in detail during the lecture: title; outline; reference sources on the topic; concepts, definitions; key formulas; diagrams; principles; methods; theories; hypotheses; estimates; conclusions and practical recommendations.

Lecture notes are not a copy of a lecture but the representation of its main idea. The notes are written for later reading, meaning that they should be made in such a way that they can be easily and quickly read after some time. Notes help to understand and retain information.

It is recommended to ask the lecturer follow-up questions to deepen the understanding of the theoretical concepts and clarify controversial issues. When preparing for seminars, students can finish the lecture notes by adding relevant ideas from the studied literature indicated in the work program of the discipline.

Lecture topics are listed in the discipline (module) syllabus.

## **2. Guidelines to preparing for seminars**

Seminar sessions are an integral part of the study process at university. They include seminars, practical classes, case studies, laboratory work, colloquiums and similar activities.

The effectiveness of such classes highly depends on the quality of lectures and self-study. Seminar sessions are given within disciplines (modules) that require scientific and theoretical summary of literary sources, they provide advanced knowledge and skills to work with various sources of information.

Seminar sessions outlines, topics, recommended reading, learning goal and objectives are introduced during first classes, and in the methodological guidelines on MAU LMS Moodle.

A two-step approach to preparing for seminars is the following:

Step 1 – organisational. Students plan their work in the following way: understanding the task; identifying relevant reading; making an outline to set the milestones for preparation. Making outlines improves student’s self- discipline and time-management skills.

Step 2 – consolidation and deepening of the theoretical knowledge. This step supposes preparation for the seminar. Students are advised to begin with recommended literature. Remember that only some material is covered in lectures. Therefore, working with the recommended literature is mandatory. Pay attention to the main concepts and conclusions, explanations of phenomena and facts, grasping practical application of theoretical material. Students should understand and memorise the main points of the material, examples, as well as examine visual aids. Finalise your preparation by making an outline (summary) of the material (topic). This allows you to get a concentrated, contracted knowledge of the studied chapters.

There are four types of notes:

*Outline notes* – a detailed plan that covers points that require explanation.

*Summary notes* – writing down the most important concepts and facts.

*Free-structure notes* - writing down clearly and briefly the main statement after comprehending the material. You may include extracts, citations, bullet-points; some material may be organized as an outline.

*Issue-related notes* – compiling the information from different sources on a particular diagram (issue).

**Practical classes** are designed for students to work on one or more practice assignments under the guidance of a teacher. While lectures mainly focus on the theoretical part of a course, practical classes teach methods of theory application. The main goal of such classes is to acquire methods of theory application and skills necessary to complete subsequent courses.

Preparation for a practical lesson should begin right after a lecture on the topic or consultation with a teacher. It is necessary to identify relevant reading for the class and review it. Students should comprehend theoretical problems, connect them with real life and possible ways of their implementation.

**Seminar.** Students are supposed to work actively during a seminar – present reports, answer teacher’s questions, discuss issues collectively. A seminar topic is the same for the whole group of students, and each should prepare to answer any question if the teacher hasn’t divided questions between the students individually. Reports presented at a seminar are discussed, and students may add or make remarks on something. This way the students learn to clearly form their ideas, give reasons for their thoughts, debate, as well as consider their opponents’ points of view. Besides, there is an opportunity to identify students’ weak points during the seminar.

### **3. Group and one-to-one office hours**

Office hours are times when students can meet the teacher outside of class to discuss the material or related issues.

Office hours are offered:

- to address in detail some practical issues that were insufficiently covered or omitted in lectures;
- to advise on self-study (writing term papers, essays, tests, calculation and graphic papers, course papers (projects), preparing for interim assessment, participating in a conference, etc.);
- to assist students in addressing controversial or difficult issues within the discipline (module).

Before attending office hours, think carefully about the issues that require clarification. If you have difficulty understanding theoretical material, you need to specify which of the points you failed to understand.

If you have difficulty solving a problem or preparing a laboratory work report, indicate the stage of the problem you cannot solve or the requirement you cannot fulfil.

### **4. Guidelines to organising self-study**

Successful competencies development formed by the discipline implies efficient use of time for self-study work.

Self-study is a way of learning that involves studying alone under the teacher’s assignment, guidance and observation. Students possessing self-study skills get a better and deeper knowledge of the study material, are better prepared for creative work, self-education and continuing education.

Self-study work can be both in-class and out-of-class. The types of self-study work often overlap.

In-class self-study is performed under the teacher's assignment during learning sessions, including:

- individual tasks, tests;
- practical assignments;
- problem solving, drawing up images (such as schemes, diagrams, tables, etc.);
- reviewing reference, methodological, and special literature;
- writing a report on performed work;
- preparation for discussions, completing tasks in a role-play simulation, etc.

Out-of-class self-study (in MAU library, laboratory, at home, in self-study rooms, etc.) is obligatory (according to the syllabus) and it does not involve immediate and constant guidance from the teacher.

Out-of-class self-study may include:

- preparation for in-class learning sessions (lectures, seminars, etc.) and homework;
- self-studying single chapters of the course (module) according to the syllabus;
- reviewing the recommended list of main and supplementary literature in connection to lecture notes;
- writing reports, essays, preparing presentations, compiling glossaries, etc.;
- preparing for different types of practical training and completing the tasks according to the syllabus;
- preparing for different types of formative, interim and final assessment;
- participating in research, project and creative activities within a discipline (module);
- preparing for competitions, Olympiads, conferences, work in student scientific associations and clubs;
- other types of self-study.

The syllabus of the discipline, practical training, final assessment programme determine the contents of self-study work. The assignments for self-study have scheduled deadlines.

Any type of self-study includes the following steps:

1. Setting the goal.
2. Specifying a learning (problem or practical) objective.
3. Self-assessing your preparedness to work independently on an assigned or selected objective.
4. Selecting a course of action to address the objective.
5. Planning (independently or with the instructor) self-study to address the solution.
6. Following the self-study plan.
7. Checking the progress of self-study, assessing the results.  
Reflecting on your study performance.

### **Reviewing the scientific and educational literature**

Reviewing educational and scientific literature is the keynote of self-study; it is necessary to read for seminars, quizzes, tests, and "credit" assessments.

While reviewing educational and scientific literature, students can:

- make a short or detailed outline (make a list of the main issues);

- summarise (cite the most important information from an article or monograph, make a short summary of the key ideas expressed by the author);
- make abstracts (a short summary of the main issues);
- make notes (detailed information).

Upon selecting the appropriate resource, students should find the relevant chapter in the contents or index, as well as related lecture notes or chapter from a textbook. In case understanding the educational material is difficult, students may refer to other sources that may cover the issue more clearly. It should be noted that the skill of reviewing literature helps to gain better knowledge within a discipline and becomes a part of being a professional practitioner.

### **Writing a report**

The report (from Latin – referre – “to report”) is a brief presentation, oral or written, of the content of a question or topic based on a critical review of the information.

Any report contains material that supplements and expands main topics covered in class. Preferable topics for term papers are the ones that meet areas of interest or are novel. As a written assignment, it describes a primary source – a scientific paper, a monograph, an article. The report may include an overview of several sources and serve as the basis for a presentation on a specific topic at seminars and conferences.

The purpose of writing reports is to develop the skill of self-studying literature, while analysing and generalizing the material, students can draw their own theoretical and practical conclusions, and justify them.

Reports should meet research content and structure requirements.

To prepare a report, it is suggested to follow the steps:

Define the idea and aim. Remember that the other people will read the report. Therefore, constantly ask yourself whether what is written will be clear to others, what interesting and new things they will find in their work.

State the topic or problem clearly. It should not be too vague.

Find the relevant literature on the topic. Make a list of literature that you should read.

You should start writing the paper after preliminary preparation. First of all, make a plan, highlight the parts in it.

Any report consists of an introduction, the main part and a conclusion.

In the introduction, students briefly explain the relevance of the chosen topic, formulate the problem, set specific goals and objectives that they are going to address in the course of their small research. The main part reveals in detail the nature of the question(s) of the topic and a consistent presentation of the structure of the text material with obligatory citations. In general, the content should reflect the positions of individual authors, compare these positions, and the highlight key issues of discourse on the topic. In the conclusion, the obtained research results should be briefly described and conclusions should be given. The author of the report should also formulate a personal position on the studied problem and suggest, perhaps, their own ways of solving it. In addition, the conclusion may include the author’s suggestions, including on further study of the problem. The list of references includes only those sources that they used for citation. The tables, graphs, diagrams and other complementary materials that are referenced in the text, may be attached.

The paper should include no more than 12-15 A4 pages.

Unlike theoretical seminars, during which students acquire, in particular, the skills of expressing their opinion and giving the authors' opinion from the reviewed literature, writing reports will give them the skills to do the same better, but in written form, in a proper language and fine style.

The time limit for the report presentation is 7-10 minutes.

### **5. Guidelines to preparing for interim assessment**

B1.B.01 "Clinical Aspects of Laboratory Diagnostics" discipline (module) ends in "credit" assessment according to the syllabus.

The interim assessment aims at checking the final outcomes of completing the discipline (module).

The "credit" assessment supposes competence development based on the results of formative assessments within the discipline (module) in accordance with the checklist.

Students receiving sufficient number of credit points within the course get a "pass".

"Credit" courses mean preparing for in-class learning and out-of-class formative assessment.