

**ACADEMIC STANDARD
FOR THE DISCIPLINE ANATOMY, HISTOLOGY AND EMBRYOLOGY**

1. The aim

The aim of the course is attaining thorough knowledge of the human body structure at different levels of organization - from macroscopic to ultramicroscopic.

The aim is consistent with:

- the University mission and concept,
- the volume of the material and credit rating of the discipline (according to the ECTS system) as outlined in the curriculum;
- the qualification characteristics of the specialty;
- the educational degree (professional bachelor, bachelor or master).

The aim is related to the place of the discipline in the curriculum of the specialty. As a fundamental discipline it predominantly serves the next stages of training.

2. Educational content

The lectures, practical classes and colloquia are available on the Department's website: www.anatomy.plcnet.org

The content is chronologically arranged in a way that each subsequent lecture and the related exercises use already studied subject matter and concepts. Avoidance of unnecessary overlap or the existence of "white spots" between "linked" curriculum disciplines.

3. Prerequisites

The student must have basic knowledge of biology and anatomy from educational programs in high schools to begin and successfully complete training in anatomy, histology and cytology.

Students of medicine and dentistry can enter anatomy and histology exam after passing exam in cytology, general histology and embryology

4. Academic resources

The academic staff of the department consists of 3 professors, 3 associate professors, and 17 assistant professors (7 with PhD degree in the scientific specialty). Of all lecturers 17 have acquired specialty of anatomy, histology and cytology, and 6 undergo training to acquire specialty.

The lectures are read by a professor or associate professor with a PhD or Doctor of Medical Sciences degree in the corresponding doctoral program. Up to 30% of lectures are awarded to assistant professors with PhD degree in the relevant doctoral program.

Practical classes are run by staff members (including anatomy demonstrators) and students are encouraged to take an active role in dissecting. The teachers have master degree in medicine or dentistry and are appointed after a competition.

5. Resources and facilities

The Department incorporates 4 (four) microscopic and 2 (two) macroscopic (anthropological) laboratories, equipped for functional, diagnostic, anthropological and experimental work. The total laboratory area of the department is 183.8 m². For the research activity of 1 lecturer laboratory area of 9.7 m² is provided.

Teaching is performed in 5 dissection rooms, 5 seminar rooms and 5 microscopic rooms with a total area of 466.5 m². All rooms are equipped with multimedia technique for presentations.

Dissection and use of dissection materials. Whole body dissection is still carried out to give students a thorough grounding in anatomy and the anatomical relations of organs. Previously projected material is available for students to view and study. Skeletons and skeletal elements, anatomical models and posters are also used. Anatomical museum with an abundant collection of models and native preparations is arranged in the department.

Microscopic rooms hold various microscopes to study histology. Each week histological slides and posters on current topics are put out for practical classes. Expert help and advice is always present to guide the students.

The laboratory facilities include general equipment (laboratory scales, refrigerators, thermostats, cryostats, centrifuges, etc.) and specific equipment (anthropometric and somatotype research kit, 3D laser scanner with facial analysis software, tissue culture camera, image analysis, microscopic visual display system etc.).

6. Lectures

The lectures are delivered as multimedia presentations and provided to the students in advance. The extent and format of the lectures are chosen by the lecturer.

7. Practical classes

They are organized in groups. Methodological guidelines, manuals and tests are provided for the exercises. Individual and group assignments are given. Control is performed on:

- the student's preparation,
- the results (obtained knowledge and skills) of the specific exercise.

As a methodical form, priority is given to teamwork, team discussions and role-playing. Students can prepare and defend concepts (presentation) on a topic defined on the previous practical. Afterwards discussion is made within groups.

8. Information resources. Basic literature. Sites

The lecturer is required to have lectures and exercises developed and to provide lectures, training tests and other teaching material in electronic form.

Recommended literature in the discipline with priority of the available sources (outlined as "main literature") is presented. Appropriate internet resources are also recommended.

9. Control work

Students should be taught dynamically and intensively during the semester. It is assumed that the depth, durability and applicability of the knowledge and skills depend on the way they are acquired. Ongoing control of students' knowledge is carried out through tests thrice in the semester. Students are provided with timely information and explanations of the results of the test (the next exercise) to assist in their further preparation. Up to 3 (three) days after the results are announced, the student has the right to get acquainted with his / her work.

The results of these tests are included as a component in the final grade for the semester.

10. Self-learning and extracurricular work of the student

The self-learning of the student is guided by the lecturer (assistant) who guides the student both in the references and in the methods of their use. They also provide training tests, incl. on-line, for independent work and student exercises.

11. Cooperation between lecturers and students

This cooperation is expressed in:

- Commitment of the teacher to the student and his / her pre-training, current difficulties in learning the material and opportunities of further achievements through individual learning program.
- Counseling hours.
- Involving students in teams for scientific tasks, research, projects, etc.

12. Exams

Current assessments planned in the curriculum of the discipline are given for:

1. The results of student in seminar exercises, coursework and individual assignments, research and projects with lecturer, etc.;
2. At least two (one in the middle and one at the end of the semester) control written exams.

13. Evaluation standards

Final assessment of anatomy and histology is by common score of two components:

- First is the assessment of the student's learning activity throughout semester (up to 30%). with control tests.
- Second is the exam on the discipline (not more than 70%). It is also important to have the regulation to conduct the exam so as to be minimize the possibility of manipulating its results.

The discipline develops clear assessment standards. The levels of reproduction and use of knowledge by students are defined as information-reproductive, technologically-productive, problem-productive, innovative-creative. Based on the above any assessment of the theoretical component of the exam is given characteristic:

- **Poor (2)** gets a student with scanty knowledge that do not provide basis for the next level pre-clinical and clinical subjects.
- **Average (3)** receives a student who reproduces the knowledge in "ready scheme", missing basic points of the topic; the student can not to use the acquired knowledge and professional competences on his own; terminology is not clear, the presentation is characterized with poor language;
- **Good (4)** receives a student who presents the topic descriptively, reproductive, using typical expressions; limited self-reliance in using the acquired knowledge and competences; in the essay, although there is a good language culture, inaccuracies in the terms are present;
- **Very good (5)** gets a student who develops the topic independently, efficiently, innovatively looking for a new algorithm and analysis of the data; tries to explain and substantiate his thesis; adequately uses the concepts of the scientific field of the discipline studied, has good language culture;
- **Excellent (6)** receives a student who independently, logically, with presence the creative element takes the theme; reasonably and originally used interprets the literature relating to the matter being disclosed; observed formality and readiness to use the acquired knowledge and professional competences; accuracy and rich language culture of the exhibition.

At the beginning of the sessions the students should be acquainted with rating standards, ongoing control procedures, and opportunities to get feedback on their progress during the semester.

14. Formation of the final mark

The final degree mark indicates the level to which the goal of the training set at the beginning is achieved by the student. It is multicomponent and includes assessment from written final exam, oral exam and semester assessment mark.

For each component involved in the final evaluation coefficient of significance (0 to 1) is determined and the total sum of the coefficients should always be 1. The final degree mark is obtained as sum of the components marks multiplied by the coefficients of significance.

$$Q_{\text{final mark}} = k_1 Q_{\text{semester score}} + k_2 Q_{\text{written exam}} + k_3 Q_{\text{oral exam}}$$

$$k_1 = 0.20; k_2 = 0.50; k_3 = 0.30$$

If one of the final exam components mark is poor 2, the final degree mark is necessarily poor 2.

15. Storage of exam papers and assessment control

- The students have the right to be informed about the regulation, procedures and results of the assessment, to make claims and complaints in case of controversy with the current rules.
- The student's right, within the meaning of the preceding paragraph, is valid in the case of established technical shortages or errors (e.g. in the calculation or entering the scores) and on the grounds of discrepancy between the knowledge, skills and competencies shown, and the exam pass mark.
- Correction in the scores under the preceding paragraph are allowed in the Student Book, the examination protocol or in the General Book only by the chief of the discipline.
- Any controversy and claims by the students are made in written form to the assessment team, which should provide a reasoned response by the end of the next working day.
- Established and proven cases of serious violation of the student rights in assessing his / her knowledge, skills and competences are addressed through a written complaint to the Vice-Rector of Quality and Accreditation.

The students have the possibility to see their exam papers and learn about the reasons for the assessment by order and procedure announced in advance. The period during which the students have access to the exam papers and results is no longer than 3 (three) working days after the exam date.