



## DISCIPLINE GRID

### 1. Programme:

1.1.	CAROL DAVILA UNIVERSITY OF MEDICINE AND PHARMACY
1.2.	GENERAL MEDICINE FACULTY / 2 <sup>nd</sup> PRECLINICAL DEPT. - MORPHOLOGICAL SCIENCES
1.3.	DIVISION OF Cellular and Molecular Biology and Histology
1.4.	TEACHING LINE: Histology
1.5.	STUDY LEVEL: Licence
1.6.	PROGRAMME: Day School

### 2. Teaching line

2.1.	Teaching Line: HISTOLOGY						
2.2.	Lecture holders:						
2.3.	Practical activity holder:						
2.4. Study year	II	2.5. Semester	III and IV	2.6. Evaluation	Practical Examination - oral; Final Examination - written	2.7. Type of discipline	Fundamental (FD)

### 3. Estimated total time (hours/semester)

No. hours/week	5	out of which: Lecture	2	Laboratory Session	3
Total hours out of learning schedule	140	out of which: Lectures	56	Laboratory Sessions	84
Time distribution	28 weeks				

<b>Textbook study, lecture support, bibliography, and notes</b>		
<b>Supplementary documentation activity in the library, on online platforms</b>		
<b>Practical activity support material, homework, portfolio and essays</b>		
<b>Tutorial activity</b>		
<b>Examinations</b>		
<b>Other activities</b>		
<b>Total hours of individual study</b>		
<b>Total hours per semester</b>		
<b>Credits</b>	1 <sup>st</sup> semester: 6; 2 <sup>nd</sup> semester: 6	12

#### 4. Preconditions

<b>4.1. curriculum</b>	Not required
<b>4.2. proficiencies</b>	Not required

#### 5. Conditions

<b>5.1. for lecture activity</b>	Not required
<b>5.2. for tutorial activity</b>	Not required

#### 6. Accumulated skills

<b>6.1. Proficiencies (knowledge and abilities)</b>	<ul style="list-style-type: none"> <li>• selection, combination and appropriate use of knowledge, skills and other acquisitions (values and attitudes).</li> </ul>
<b>6.2. Transversal skills (role, professional, personal development)</b>	<ul style="list-style-type: none"> <li>• identification of objectives, available resources, acquiring conditions, work flow, working steps and deadlines</li> <li>• identification of roles and responsibilities in a multidisciplinary, effective team</li> <li>• effective use of information sources, communication resources and assisted training (internet portals, specialized software, databases, online tutorials etc.)</li> <li>• autonomy and responsibility</li> <li>• social interaction</li> <li>• personal and professional development</li> </ul>

#### 7. Objectives (based on the grid of acquired specific skills)

<b>7.1. General Objective</b>	<ul style="list-style-type: none"> <li>• Acquiring the principles of structural organization and activity of cells, tissues, organs, organ systems and the human organism as a complex system;</li> <li>• Creating concepts about cellular interaction;</li> <li>• Review of classical histology in the context of recent years progress in the field of fundamental research, acquiring practical skills in microscopic examination for medical practice;</li> <li>• Diagnosis of cells, tissues and organs under the optical microscope;</li> <li>• Recognition, analysis and correlation of electron microscopy images with light microscopy;</li> <li>• Developing critical thinking in addressing fundamental morphology.</li> </ul>
<b>7.2. Specific Objective</b>	Integration of morphological sciences in clinical field

## 8. Content

8.1. Lectures	Teaching method	Observations
<b>Lectures 3<sup>rd</sup> semester</b> Lecture 1. The epithelial tissue (1); Lecture 2. The epithelial tissue (2); Lecture 3. The epithelial tissue (3); Lecture 4. Connective tissue (1): extracellular matrix; Lecture 5. Connective tissue (2): cell and fibers; Lecture 6. Connective tissue (3): varieties; Lecture 7. Cartilage & Bone; Lecture 8. Peripheral blood (1): Erythrocytes and platelets; Lecture 9. Peripheral blood (2): Leukocytes; Lecture 10. Hematopoiesis; Lecture 11. Muscle tissue (1): skeletal muscle tissue; Lecture 12. Muscle tissue (2): Smooth and cardiac muscle tissue; Lecture 13. Nerve tissue; Lecture 14. Nervous system. <b>Lectures 4<sup>rd</sup> semester</b> Lecture 15. Circulatory system; Lecture 16. Lymph organs and the immune system; Lecture 17. Endocrine glands (1); Lecture 18. Endocrine glands (2); Lecture 19. Digestive tract (1); Lecture 20. Digestive tract (2); Lecture 21. Liver, pancreas and salivary glands; Lecture 22. Respiratory system; Lecture 23. Urinary system; Lecture 24. Male genital apparatus; Lecture 25. Female genital apparatus (1); Lecture 26. Female genital apparatus (2); Lecture 27. Skin; Lecture 28. Sense organs.	Lecture	Presentation in the Lecture Hall
<b>8.2 Laboratory sessions</b> <b>3<sup>rd</sup> semester</b> Tutorial 1. Introduction to histology; Tutorial 2. Covering epithelial tissue; Tutorial 3. Glandular epithelial tissue; Tutorial 4. Connective tissue cells, fibers & matrix; Tutorial 5. Connective tissue varieties; Tutorial 6. Ultrastructure of epithelial and connective tissue; Tutorial 7. Cartilage and Bone; Tutorial 8. Mid-term evaluation. Blood cells; Tutorial 9. Blood smear investigation; Tutorial 10. Hematopoiesis; Tutorial 11. Muscle tissue; Tutorial 12. Nerve tissue; Tutorial 13. Nervous system; Tutorial 14. Practical Evaluation <b>4<sup>rd</sup> semester</b>	The basic information is presented at the beginning of each class. Then, each Teaching Assistant will work with the assigned group presenting and explaining individually the corresponding histological slides. Subsequently, histological preparations are examined by the students, under the supervision of the teaching staff, by light microscopy. In order to understand and interpret the histological diagnosis, students perform schematics according to the microscopic image and compare what they examine	Laboratories equipped with light microscopes

Tutorial 15. Circulatory system;	with images from the atlases in their endowment.	
Tutorial 16. Endocrine glands;		
Tutorial 17. Lymph organs and the immune system;		
Tutorial 18. Digestive tract (1);		
Tutorial 19. Digestive tract (2);		
Tutorial 20. Mid-term evaluation;		
Tutorial 21. Liver, pancreas and salivary glands;		
Tutorial 22. Respiratory system;		
Tutorial 23. Urinary system;		
Tutorial 24. Male genital apparatus;		
Tutorial 25. Female genital apparatus;		
Tutorial 26. Female genital apparatus;		
Tutorial 27. Sense organs;		
Tutorial 28. Practical Evaluation		
<b>Bibliography:</b>		
<ul style="list-style-type: none"><li>• Pawlina W. Histology-A Text and Atlas with Correlated Cell and Molecular Biology, 7<sup>th</sup> edition, 2016</li><li>• Lectures and PowerPoint presentations.</li></ul>		

## 9. Correlation between department activity and the expectations of epistemic community members, professional associations, and employers in representative fields

For the professional training of the second-year students in the Department of Histology, we try to establish effective communication, preparing them to acquire appropriate professional communication skills. The course encourages the dialogue, imagination, and constructive thinking, preparing them for the next stages of medical training.

## 10. Evaluation

Activity type	Evaluation Criteria	Methods of evaluation	% out of final grade
<b>Lecture</b>	<b>A. Knowledge for mark 5:</b> 1. To prove knowledge of the general structure of tissues and organs. <b>B. Additional knowledge for mark 10</b> 1. To prove the proper usage of specific terms, 2. To know of specific details on tissue/organ microscopic organization and histophysiology	Written test (single/multiple choice questions)	70%
<b>Laboratory Sessions</b>	<b>A. Knowledge for mark 5:</b> 1. To identify all tissues/organs indicated by the examiner. <b>B. Additional knowledge for mark 10</b> 1. To present all arguments sustaining his/her histological diagnosis.	Mid-term evaluation  Practical evaluation with oral examination on slides of normal tissues or organs	10% - midterm  20% - practical evaluation

**Minimum performance standards**

The passing grade is 5. Practical exam is eliminatory. At the end of the course, students must acquire the ability to correctly diagnose tissue and organs by light microscopy, analyse and interpret the light and electron microscopy images, easily manipulate the light microscope, with the aim of acquiring the basic training for the study of Pathology.

**Date 13.05.2021**