UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN

of Medicine

Course/module syllabus - part A

48SJ-HCEII
ECTS: 5
YEAR: 2020L

HISTOLOGY WITH CYTOPHYSIOLOGY AND EMBRYOLOGY 2/2

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Course/module:
Histology with Cytophysiology and Embryology 2/2

Fields of education:

Course status:	mandatory
Course group:	A - przedmioty podstawowe
ECTS code:	
Field of study:	Medicine
Specialty area:	Medicine
Educational profile:	General academic
Form of study:	full-time
Level of study:	uniform master's studies
Year/semester:	1 / 2

Type of course:
Classes, Lecture

Number of hours per semester/week:	Classes: 48, Lecture: 12

Teaching forms and methods

Classes(K1, U1, W1, W2) : Multimedia presentation (PowerPoint presentation) preceding the practical part. Microscopic analysis of histolgical slides. Classes are carried out stationary or with remote learning platforms (MOODLE, MS TEAMS) , Lecture(K1, U1, W1, W2) : Multimedia presentation (PowerPoint presentation). Lectures are carried out stationary or with remote learning platforms (MOODLE, MS TEAMS).

Form and terms of the verification results:

CLASSES: Colloquium practical - The practical colloquia (two in the second semester) consist of recognition of structures in 10 histological slides using a light microscope. Results are evaluated according to the percentage system of correct answers (0-100%). The average score is calculated for two practical colloquia. To credit the second semester and be admitted to the final exam the arithmetic average must be at least 50% of correct answers. The colloquia are carried out stationary or with remote learning platforms (MOODLE, MS TEAMS, CASE CENTER- virtual microscope) (K1, U1, W1, W2) ; CLASSES: Colloquium test - Colloquium test - The written colloquia (two in the second semester) consist of single-choice test questions. Results are evaluated according to the percentage system of correct answers (0-100%). The average score is calculated for two written colloquia. To credit the second semester and be admitted to the final exam the arithmetic average must be at least 50% of correct answers. The colloquia are carried out stationary or with remote learning platforms (MOODLE, MS TEAMS). (K1, U1, W1, W2) ; CLASSES: Written test - Written tests - Short tests (before every class) consist of single-choice test questions and/or short descriptive questions. Results are evaluated according to the percentage system of correct answers (0-100%). The average score is calculated for all short tests. To credit the second semester and be admitted to the final exam the arithmetic average must be at least 50% of correct answers. The short tests are carried out stationary or with remote learning platforms (MOODLE, MS TEAMS). (K1, U1, W1, W2) ; LECTURE: Exam - The final exam consists of two parts: practical and written. The practical exam consists of recognition of histological

COURSE CONTENT
CLASSES

Kidney and urinary tract. Female reproductive system. Male reproductive system. Blood. Bone marrow. Hematopoiesis. Histology of lymphatic organs. Oral cavity, teeth, salivary glands, esophagus. Stomach, small intestine, large intestine, appendix. Liver and bile ducts, pancreas. Endocrine system. Special senses – eye and ear. Skin and mammary gland.

LECTURES

Female reproductive system.Blood and hematopoiesis. Histology of lymphatic organs. Histology of esophagus, stomach, intestines. Histology of liver and bile ducts, pancreas. Endocrine system. Special senses – eye and ear

EDUCATIONAL OBJECTIVE:

The main objective of the course is to provide students with knowledge about the structure and related functions of cells, tissues, organs and systems forming the body of an adult, and in the earliest stages of development. The fundamental assumption was that getting to know microarchitectonics and histophysiology of organs is a necessary introduction to teaching other disciplines in further years of study. The basic part of the course program is the recognition of cytological and histological slides during practical classes.

DESCRIPTION OF LEARNING OUTCOMES FOR THE COURSE IN RELATION TO FIELD AND MAJOR LEARNING OUTCOMES

Codes of learning outcomes in a major field of study:	M/NM+++,
Codes of learning outcomes in a major area of study:	A.U1.+, A.U2.+, A.U5.+, A.W1.+, A.W2.+, A.W3.+, A.W5.+, B.W10.+, B.W21.++, B.W22.+, C.W21.+, C.W51.+, D.U16.+, K.5+, K.7.+, K.8.+,

LEARNING OUTCOMES:

Knowledge

W1 - W1 - In terms of knowledge, the graduate knows and understands: A.W1. - anatomical, histological and embryological terminology in Polish and English; A.W2. - structure of the human body in a topographic approach (upper and lower limb, chest, abdomen, pelvis, back, head, neck) and functional (osteoarticular system, muscular system, circulatory system, respiratory system, digestive system, urinary system, reproductive systems, nervous system and sensory organs, integumentary system); A.W3. - topographic relations between individual organs; A.W5. microarchitecture of tissues, extracellular matrix and organs.
W2 - W2 - In terms of knowledge, the graduate knows and understands: B.W10. structure of simple organic compounds included in macromolecules present in cells, extracellular matrix and body fluids; B.W21. the activities and mechanisms of regulation of all organs and systems of the human body, including the circulatory, respiratory, digestive, urinary, skin and the relationships between them. B.W22. the reproductive function and mechanism in women and men; C.W21. the basis of development and mechanisms of the immune system, including specific and non-specific mechanisms humoral and cellular immunity; C.W51. the mechanism of hormones action.

Skills

U1 - U1 - in terms of skills, the graduate is able to: A.U1. operate the optical microscope, including using immersion; A.U2. recognize, in the images from the optical or electron microscope, the histological structures corresponding to organs, tissues, cells and cell structures, describe and interpret their structure and the relationship between the structure and function; A.U5. use anatomical, histological and embryological names in speech and writing; D.U16. show responsibility for improving their qualifications and transferring knowledge to others.

Social competence

K1 - K1 - In terms of social competences, the graduate is ready to: K.5. perceive and recognizing one's own limitations and self-assessing educational deficits and needs; K.7. the use of objective sources of information; K.8. Formulate conclusions from own measurements or observations.

BASIC LITERATURE

3) A. L. Mescher, Junqueira’s Basic Histology: Text and Atlas, 15th Edition, wyd. McGraw-Hill Lange, 2018

SUPPLEMENTARY LITERATURE

1) Leslie P. Gartner, Textbook of Histology, 4th edition, wyd. Elsevier, 2016 ; 2) Michael H. Ross, Wojciech Pawlina, Todd A. Barnash, "Histology and Cell Biology , third edition", wyd. Elsevier., 2012 ; 4) Michael H. Ross, Wojciech Pawlina, "Histology .A Text and Atlas, sixth edition", wyd. Lippincott Williams & Wilkins., 2011 ; 5) Michael H. Ross, Wojciech Pawlina, Todd A. Barnash, "Atlas of Descriptive Histology", wyd. Sinauer, 2009 ; 7) B. Alberts, A. Johnson, J. Lewis, M. Raff, K. Roberts, P. Walter,, Molecular Biology of the Cell, fifth edition, wyd. Garland Science., 2008 ; 7) Wolfgang Kuehnel, Color Atlas of Cytology, Histology, and Microscopic Anatomy, fourth edition, wyd. Thieme, 2003 ; 8) Nalini Chandar , Susan Viselli , Lippincott Illustrated Reviews: Cell and Molecular Biology,2nd Edition, wyd. Wolter Kluwer, 2018

structures in 15 microscopic slides. The written exam consist of single-choice test questions. To pass the exam the percentage of correct answers must be 60% or more in the case of practical exam and 60% or more in the case of written exam. Students who do not pass the practical part fail the exam (grade 2) and are not admitted to the written part. Exams are carried out stationary or with remote learning platforms (MOODLE, MS TEAMS, CASE CENTER- virtual microscope); (K1, U1, W1, W2)

Number of ECTS points: 5

Language of instruction: English

Introductory courses:

Human biology, human anatomy.

Preliminary requirements:

Basic knowledge of human anatomy, physiology and cell biology. The range of material from the I semester of the subject.

Name of the organizational unit offering the course:

Katedra Histologii i Embriologii Człowieka,

Person in charge of the course:

prof. dr hab. n. med. Zbigniew Kmieć,

Course coordinators:

prof. dr hab. n. med. Zbigniew Kmieć, , dr Jacek Kieżun, , dr hab. n. med. Janusz Godlewski, prof. UWM, dr hab. n. med. Anna Kowalczyk, prof. UWM, dr Jolanta Kiewisz, , mgr Damian Tański, , dr inż. Agnieszka Śliwińska-Jewsiewicka,

Notes:

Group of students should consist of no more than 10 people.

Detailed description of the awarded ECTS points - part B

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The awarded number of ECTS points is composed of:

1. Contact hours with the academic teacher:

- participation in: classes	48 h.
- participation in: lecture	12 h.
- consultation	5 h.
	65 h.

2. Student's independent work:

- preparation for the classes, preparation for written and practical colloquia, preparation for written short tests, preparation for written and practical exams (which are are carried out stationary or using remote learning platforms (moodle, ms teams, case center - virtual microscope).	60 h.
	60 h.

1 ECTS point = 25-30 h of the average student's work, number of ECTS points = 125 h : 25 h/ECTS = 5,00 ECTS
on average: **5 ECTS**

- including the number of ECTS points for contact hours with direct participation of the academic teacher: 2,60 ECTS points,
- including the number of ECTS points for hours completed in the form of the student's independent work: 2,40 ECTS points,