



Pomeranian Medical University in Szczecin

SYLLABUS of the MODULE (SUBJECT) General Information

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| Module title: Histology, Embryology and Cytology (2023/2024) | |
| Module type | Obligatory |
| Faculty PMU | Faculty of Medicine and Dentistry |
| Major | Dentistry |
| Level of study | long-cycle Master's degree studies |
| Mode of study | full-time studies provided in English Language |
| Year of studies, semester | Year 1, semester I and II |
| ECTS credits (incl. semester breakdown) | 8 (3/5) |
| Type/s of training | Lectures: 20h (6 e-learning) (I semester: 10h, (3 e-learning), II semester: 10h (3 e-learning)) Seminars: 8h (I semester: 4h, II semester: 4h) Practical: 48h (I 24 semester: h, II semester: 24h) Summary 76 hours |
| Form of assessment ¹ | <input checked="" type="checkbox"/> final examination: I term, I and II re-take <input checked="" type="checkbox"/> theoretical test <input checked="" type="checkbox"/> practical |
| Head of the Department/ Clinic, Unit | prof. dr hab. Barbara Wiszniewska |
| Tutor responsible for the module | Dagmara Szypulska-Koziarska, PhD Dsc dagmara.szypulska.koziarska@pum.edu.pl Phone no. 914661681 |
| Department's/ Clinic's/ Unit's website | Department of Histology and Embryology 70-111 Szczecin Al. Powstańców Wlkp. 72 tel. + 48 91 466 16 77 https://www.pum.edu.pl/wydzialy/wydzial-lekarski/katedra-i-zaklad-histologii-i-embriologii |
| Language | English |

Detailed information

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| Module objectives: | | <p>Histology is one of the basic fields of medicine. The area of interest is the microscopic of the human body that can be studied using the optical devices including all kinds of microscopy. The purpose of the teaching of histology and cytology is to provide a knowledge on the structure and function of cells, structural organization of tissues, entire systems and particular organs in the human body. The knowledge would be necessary for the farther study of the next subjects including physiology, biochemistry, immunology, pathophysiology and pathology. The understanding of ultrastructure of various cell types and molecular mechanisms in their organelle would be helpful to understand the etiology of diseases as well as cellular and sub-cellular mechanisms of medications and toxic agents. Moreover, learning the histology and cytology facilitates to understand relationships between the basic science in medicine and clinical subjects. The aim of the human embryology course is to describe and explain complex processes that occur during human embryo and fetus development. Additionally, basic embryological development of the face, neck, oral cavity, teeth and pharynx as well as of the most common orofacial birth defects.</p> |
| Prerequisite /essential requirements | Knowledge | Acquire the essential elements of the organization of human tissues. The morphology and function of particular tissues and organs. The human embryo and fetal development, development of the crucial organs, including anomalies. |
| | Skills | Handling of light microscope with immersion |
| | Competences | The ability of self-education and group work |

| Description of the learning outcomes for the subject /module | | | |
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| No. of learning outcome | Student, who has passed the (subject) knows /is able to /can: | SYMBOL (referring the standards) | Method of verification of learning outcomes* |
| W01 | demonstrates knowledge of human body structures: cells, tissues and systems with particular regard to stomatognathic system | A.W1. | W, S, K, O, PS EPR, ET – I term and I and II re-take |
| W02 | explains development of organs and entire body with particular regard to masticatory system | A.W2. | W, S, K, O, PS EPR, ET – I term and I II re-take |
| W03 | understands role of nervous system for functions of certain organs | A.W4. | W, S, K, O, PS EPR, ET – I term and I II re-take |
| W04 | knows and understands functional importance of certain organs and systems in synthetic manner | A.W5. | W, S, K, O, PS EPR, ET – I term and I and II re-take |
| U01 | can operate optic microscope and is able to apply of immersion and recognize histological structures corresponding to organs and tissues using microscope images as well as explain and interpret structures thereof, and interpret relationship between structure and function of cells, tissues and organs | A.U2. | S, O, PS, EPR |

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| K01 | Student sees and recognizes his own limitations and performs a self-assessment of deficits and educational needs | K5 | O |
| K02 | Student uses objective sources of information | K7 | O |

| Table presenting LEARNING OUTCOMES in relation to the form of classes | | | | | | | | |
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| No. of learning outcome | Learning outcomes | Type of training | | | | | | |
| | | Lecture | Seminar | Practical classes | Clinical classes | Simulations | E-learning | Other... |
| W01 | A.W1. | x | x | | | | x | |
| W02 | A.W2. | x | x | | | | x | |
| W03 | A.W4. | x | x | | | | x | |
| W04 | A.W.5. | x | x | | | | x | |
| U01 | A.U2. | | | x | | | | |
| K01 | K5 | | | x | | | | |
| K02 | K7 | | | x | | | | |

| Table presenting TEACHING PROGRAMME | | | |
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| No. of a teaching programme | Teaching programme | No. of hours | References to learning outcomes |
| Winter semester | | | |
| Lectures (7h) | | | |
| TK01 | Connective tissue proper and adipose tissue. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK02 | Muscle tissue. | 1 | A.W1., A.W4., A.W5. |
| TK03 | Cartilage and bone with histogenesis. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK04 | Blood and bone marrow. | 1 | A.W1., A.W2., A.W5. |
| TK05 | Circulatory system | 1 | A.W1., A.W4., A.W5. |
| TK06 | Basis of immunology and lymphatic system | 1 | A.W1., A.W4., A.W5. |
| TK07 | Central nervous system. | 1 | A.W1., A.W4., A.W5. |
| Seminars (4h) | | | |
| TK01 | Cytology with cytoskeleton | 1 | A.W1. |
| TK02 | Methods in histology. | 1 | A.W1. |
| TK03 | Cell cycle. | 1 | A.W1. |
| TK04 | Cell differentiation. | 1 | A.W1., A.W2., A.W4., A.W5. |
| Practical classes (24h) | | | |
| TK 01 | Organizing classes (familiarizing Students with the regulations, digital system and optic microscope). | 1 | A.U2., K5., K7. |
| TK 02 | Epithelial tissue and glands. | 2 | A.U2., K5., K7. |
| TK 03 | Connective tissue proper and adipose tissue. | 2 | A.U2., K5., K7. |
| TK 04 | Cartilage and bone with histogenesis. | 2 | A.U2., K5., K7. |
| TK 05 | Muscle tissue. | 2 | A.U2., K5., K7. |
| TK 06 | Nervous tissue. Practical classes-revision of the slides. | 2 | A.U2., K5., K7. |
| TK 07 | I theoretical test. I practical test. | 1 | A.U2., K5., K7. |
| TK 08 | Blood and bone marrow. | 1 | A.U2., K5., K7. |
| TK 09 | Central nervous system. | 2 | A.U2., K5., K7. |
| TK 10 | Circulatory system. | 1 | A.U2., K5., K7. |
| TK 11 | Lymphatic system. | 2 | A.U2., K5., K7. |

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| TK12 | Respiratory system. Practical classes- revision of the slides. | 2 | A.U2., K5., K7. |
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| TK 13 | II theoretical test. II practical test. | 2 | A.U2., K5., K7. |
| TK 14 | Theoretical test and practical test for Students with doctors' leaves. | 2 | A.U2., K5., K7. |
| E-learning (3h) | | | |
| TK01 | Epithelial tissue and exocrine glands. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK02 | Nervous tissue. | 1 | A.W1., A.W4., A.W5. |
| TK03 | Respiratory system. | 1 | A.W1., A.W4., A.W5. |
| Summer semester | | | |
| Lectures (7h) | | | |
| TK01 | Oral cavity: tongue, lip. | 1 | A.W1., A.W4., A.W5. |
| TK02 | Tooth. | 1 | A.W1., A.W4., A.W5. |
| TK03 | Glands associated with digestive system: salivary glands (with development), liver. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK04 | Endocrine system. | 1 | A.W1., A.W4., A.W5. |
| TK05 | Female reproductive system. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK06 | Male reproductive system. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK07 | Urinary system. | 1 | A.W1., A.W4., A.W5. |
| Seminars (4h) | | | |
| TK01 | Tooth development. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK02 | Development of pharyngeal arches and pouches (development of head and neck). | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK03 | Fertilization, implantation, gastrulation. | 1 | A.W1., A.W2., A.W5. |
| TK04 | Teratogens and fetal membranes | 1 | A.W1., A.W2., A.W5. |
| Practical classes (24h) | | | |
| TK01 | Skin. | 2 | A.U2., K5., K7. |
| TK02 | Oral cavity: tongue, lip. | 2 | A.U2., K5., K7. |
| TK03 | Tooth. | 1 | A.U2., K5., K7. |
| TK04 | Digestive tube: esophagous, stomach, small intestine. | 1 | A.U2., K5., K7. |
| TK05 | Glands associated with digestive system: salivary glands, liver. Practical classes-revision of the slides. | 2 | A.U2., K5., K7. |
| TK06 | III theoretical test III practical test. | 2 | A.U2., K5., K7. |
| TK07 | Endocrine system. | 2 | A.U2., K5., K7. |
| TK08 | Female and male reproductive system. | 2 | A.U2., K5., K7. |
| TK09 | Urinary system. | 2 | A.U2., K5., K7. |
| TK10 | Eye. Practical classes-revision of the slides. | 2 | A.U2., K5., K7. |
| TK11 | IV theoretical test. IV practical test. | 1 | A.U2., K5., K7. |
| TK12 | Theoretical and practical test for Students with doctors' leave. Booster. | 2 | A.U2., K5., K7. |
| TK13 | Revision of the slides before the exam. | 2 | A.U2., K5., K7. |
| TK15 | Theoretical exam. | 1 | A.U2., K5., K7. |
| E-learning (3h) | | | |
| TK01 | Skin. | 1 | A.W1., A.W2., A.W4., A.W5. |
| TK02 | Digestive tube: esophagous, stomach, small intestine. | 1 | A.W1., A.W4., A.W5. |
| TK03 | Eye and ear. | 1 | A.W1., A.W4., A.W5. |

| Booklist |
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| Obligatory literature: |
| <ol style="list-style-type: none"> 1. Junqueira's Basic Histology: Text and Atlas, Fifteenth Edition. 2. Before we are born. Essential of Embryology and Birth defects. Keith L. Moore, T.V.N. Persaud, MarkG. Torchia 8th edition 2013. 3. Materials prepared by tutors. |
| Supplementary literature: |
| <ol style="list-style-type: none"> 1. B. Wiszniewska, A. Wilk. The world of Histology. Script. 2. Leslie P. Gartner, Textbook of Histology. 3. T.W. Sadler: Langman's medical embryology. Thirteenth edition |

| Student's workload | |
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| Form of student's activity (in-class participation; activeness, produce a report, etc.) | Student's workload [h] |
| | Tutor |
| Contact hours with the tutor | 76 |
| Time spent on preparation to seminars/ practical classes | 30 |
| Time spent on reading recommended literature | 24 |
| Time spent on writing report/making project | - |
| Time spent on preparing to colloquium/ entry test | 35 |
| Time spent on preparing to exam | 75 |
| Other | - |
| Student's workload in total | 240 |
| ECTS credits for the subject (in total) | 8 |
| Remarks | |
| - | |

* Selected examples of methods of assessment: EP – written examination
 EU – oral examination
 ET – test examination
 EPR – practical examination
 K – colloquium
 R – report
 S – practical skills assessment
 RZC – practical classes report, incl. discussion on results
 O – student's active participation and attitude assessment
 SL – lab report
 SP – case study
 PS - assessment of student's ability to work independently
 W – entry test
 PM – multimedial presentation other...