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| **Syllabus 2020/2021****training cycle: ………2019/2024……………………………………….** |
| **Description of the course** |
| **Module/Course** | **Histology with Embryology** |
| **Faculty** | Dentistry |
| **Major**  | dentistry |
| **Specialties** | - |
| **Level of studies** | Uniform magister studies **x**1st degree studies 2nd degree studies 3rd degree studies postgraduate studies  |
| **Form of studies** |  full-time **×** part-time |
| **Year of studies**  | II | **Semester** | **x** Winter Summer |
| **Type of course** | **×** obligatory limited choice free choice / elective  |
| **Course** | **×** major basic |
| **Language of instruction** |  Polish **x** English other |
| \* mark with an **X** |
| **Number of hours** |
| Form of education |
| Unit teaching the course | Lectures (L) | Seminars (SE) | Auditorium classes (AC) | Major Classes – not clinical (MC) | Clinical Classes (CC) | Laboratory Classes (LC) | Classes in Simulated Conditions (CSC) | Practical Classes with Patient (PCP) | Specialist Classes – magister studies (SCM) | Foreign language Course (FLC) | Physical Education obligatory (PE) | Vocational Practice (VP) | Self-Study (Student's own work) | E-learning (EL) |
| **Winter Semester** |
|  | **5** |  |  | **35** |  |  |  |  |  |  |  |  |  |  |
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| **Summer Semester** |
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| **TOTAL per year:**  |
|  | 5 |  |  | 35 |  |  |  |  |  |  |  |  |  |  |
| **Educational objectives** (max. 6 items)**C1.** During the course of histology studentsshould become acquaint:* the principles of the basic techniques used in the morphological studies,
* the organization of the cell model with cell organelles, their structure and functions,
* structure and function of selected, important specialized cells,
* classification, characteristics, origin, histological organization and role of the tissues,
* histological organization of organs and systems and their role and the basic mechanisms that regulate their functions.

**C2.** During the course of embryology studentsshould become acquaint:* with prenatal part of the human development (including all stages of human pre-embrionic, embryonic and fetal development)
* with development of pharyngeal apparatus and birth defects associated with the development of head and neck
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| **Education result matrix for module/course in relation to verification methods of the intended education result and the type of class** |
| Number of course education result  | Number of major education result  | Student who completes the module/course knows/is able to | Methods of verification of intended education results (forming and summarising) | Form of didactic class*\*\*enter the abbreviation* |
| **W 01** | **AW1** | demonstrates the knowledge of human organism’s structures: cells, tissues, organs and systems, especially stomatognathic system, | Oral response, written examination | L, MC |
| **W 02** | **AW2** | describes the organs’ and the whole organism’s development, especially the masticatory complex development | Oral responseWritten responseFinal test | L, MC |
| **W 03** | **AW5** | describes concisely the functional significance of the particular organs and systems | Participation in the discussion of problem | L, MC |
| **U 01**  | **A U 2** | The student recognizes in images from optical or electron microscope histological structures corresponding to the organs, tissues, cells and cellular structures, shall describe and interpret their structure and the relationship between structure and function | Oral response, written examination, proper drawing preparation, practical examination |  MC |
| **K 01** | **K. S5** | Identifies and recognizes its own limitations, self-assess deficits and educational needs. | direct observation of student attitudes | L, MC |
| **K02** | **K. S7** | Uses objective sources of information.  | direct observation of student attitudes | L, MC |
| **K03** | **K. S8** | Deduces conclusions from own measurements and observations. | direct observation of student attitudes | L, MC |
| \*\* L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (magister studies); CSC – classes in simulated conditions; FLC – foreign language course; PCP practical classes with patient; PE – physical education (obligatory); VP – vocational practice; SS – self-study, EL – E-learning .  |
| Please mark on scale 1-5 how the above effects place your classes in the following categories: communication of knowledge, skills or forming attitudes:Knowledge: .5…Skills: …4.Social competences: …3.. |
| **Student's amount of work (balance of ECTS points)** |
| **Student's workload** (class participation, activity, preparation, etc.) | **Student Workload (h)** |
| 1. Contact hours: | 40 |
| 2. Student's own work (self-study): | 80 |
| Total student's workload | 120 |
| **ECTS points for module/course** | 4 |
| Comments  |  |
| **Content of classes** (please enter topic words of specific classes divided into their didactic form and remember how it is translated to intended educational effects)1. Digestive system: liver and pancreas.
2. Endocrine system (hypothalamus, pituitary gland, thyroid and parathyroid, adrenals, pancreas, ovary and testis, diffused neuroendocrine system).
3. Respiratory system: upper and distal tract.
4. Urinary system (kidney, the structure and function of nephron, lower urinary tract).
5. Male and female reproductive system (ovary and uterus, testis and epididymis, hormonal control).
6. Nervous system (the neuron’s structure and function, neuroglia, the central and peripheral nervous system).
7. Skin and breast.
8. Sense organs: eye and ear.

**Cytology:**1. Methods used to study the cell functioning.
2. Cell nucleus’ organization and functioning.
3. Cell cycle and cell aging.
4. Types of cell death (apoptosis, necrosis, autophagy).
5. Cytoskeleton.
6. The most important processes occurring in cytoplasm.
7. Intercellular signaling.
8. Adhesion molecules and extracellular matrix.
9. The most important processes associated with immune response.
10. Cancerogenesis.

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| **Lectures**1. Respiratory system.
2. Digestive system: liver and pancreas
3. Urinary system and reproductive system
4. Endocrine system
5. Nervous system

3. |
| **Seminars**1.2.3. |
| **Practical classes**1.2.3. |
| **Other****1.****2.****3.***etc. …* |
| **Basic literature** (list according to importance, no more than 3 items)1. Basic Histology. L. Carlos Junqueira, Jose Carneiro, Robert O. Kelly
2. Human Histology. Alan Stevens, James Lowe
3. Langman's Medical Embriology. T.W. Sadler; Lippincott Williams & Wilkins

**Additional literature and other materials** (no more than 3 items)1. Histology and Cell Biology: An Introduction to Pathology. Abraham Kierszenbaum
2. Histology: a text and atlas. Michael H. Ross, Gordon I. Kaye, Wojciech Pawlina
3. Exercise notebook for medicine and dentistry student (ed. Maciej Zabel). Elsevier Urban & Partner, Wrocław 2010
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| **Didactic resources requirements** (e.g. laboratory, multimedia projector, other…)Classroom with optical microscopes,Microscope with computer and multi-media projector , laptop, whiteboard with markers, histological slides |
| **Preliminary conditions** (minimum requirements to be met by the student before starting the module/course)Basic knowledge of the structure and function of cells, tissues and organs. |
| **Conditions to receive credit for the course**:1. Test of practical skills: 10 slides from general histology, 5 slides from detailed histology with pointed elements, 2 electronograms. To pass correctly have to be distinguished at least 7 slides from general histology, 3 from detailed histology and 1 electronogram.
2. Cytophysiology test, written, 50 questions multiple choice. For credit 26 correct answers is required.
3. Final exam in form of written multiple choice test up to 120 questions.

**The condition for admission to the final examination of the theoretical: completion of the second semester**  |
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| **Grade:** | **Criteria** (only for courses/modules ending with an examination) |
| Very Good(5.0) | Point range depending on Gauss classification |
| Good Plus (4.5) | Point range depending on Gauss classification |
| Good(4.0) | Point range depending on Gauss classification |
| Satisfactory Plus (3.5) | Point range depending on Gauss classification |
| Satisfactory (3.0) | Point range depending on Gauss classification. Minimum 60% correct answers |
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| **Name and address of module/course teaching unit, contact: telephone and e-mail address** Division of Histology and Embryology Wroclaw Medical Universityul. Chalubinskiego 6a, 50-368 Wroclawtel.: (71) 784-13-54(55), fax: (71) 784-00-82e-mail: justyna.kosek@umed.wroc.pl**Coordinator / Person responsible for module/course, contact: telephone and e-mail address****Marzenna Podhorska-Okolow MD, PhD, Prof.**e-mail: marzenna.podhorska-okolow@umed.wroc.pl tel. 71 784 16 70**List of persons conducting specific classes: full name, degree/scientific or professional title, discipline, performed profession, form of classes**.1. **Urszula Ciesielska PhD (adiunct) – lectures, classes**
2. **Christopher Kobierzycki MD, PhD (adiunct)– lectures, classes**
3. **Sylwia Borska PhD (adiunct) - seminars**

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| **Date of Syllabus development**  | **Syllabus developed by**  |
| 25. 06. 2020………………………………………….. |  Urszula Ciesielska  |
| **Signature of Head of teaching unit** |
| …………………………………………………… |

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