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| Module name | **Animal Histology and Embryology** |
| Module code | B-BE.046 |
| ISCED code | 0511: Biology |
| Study cycle | Io |
| Semester | summer  |
| Responsible for this module  | Monika Hułas-Stasiak, monhul@o2.pl, +48 815375908 Joanna Jakubowicz-Gil,jjgil@poczta.umcs.lublin.pl,+48 815375908  |
| Language of instruction | English |
| Website | www.umcs.pl/en/list-of-courses,5022.htm |
| Prerequisites | Basic knowledge of English |
| ECTS | 6.5 |
| ECTS points hour equivalents | Contact hours (work with an academic teacher) 30 hours lecture, 45 hours laboratoryTotal number of hours with an academic teacher90 hoursNumber of ECTS points with an academic teacher 3Non-contact hours (students' own work)105Total number of non-contact hours105Number of ECTS points for non-contact hours 3.5**Total number of ECTS points for the module 6.5** |
| Educational outcomes verification methods | Four assessment tests during the course on which final mark is based, presence on lab classes. |
| Description | Histology is an introduction to the microscopic structure of cells, tissues and organs. The emphasis of the course is on the study of human body. This course provides the students with the opportunity to use the light microscope to study stained and mounted sections of mammalian tissues. The aim of this course is to allow the students to gain an understanding of the human body on a microscopic level and to develop an appreciation of intricate relationship among various organ systems. The focus of embryology is on the anatomy of vertebrate embryogenesis with specific emphasis on humans. Topics include fertilization, implantation, gastrulation, neurulation and organogenesis of a variety of structures. |
| Reading list | **1** Sadler TW. Medical Embryology. Lippincott Williams and Wilkins, 2006**2.** Alan Stevens, James Lowe. Human Histology, 2010  |
| Educational outcomes | **KNOWLEDGE*** To acquire an in –depth knowledge of human body structure at the microscopic level
* To know the relationship between the histological structure and function of differentiated/specialized cell types, tissue types and organs of human
* To know some of the techniques that are used to investigate histology
* To introduce students to developmental anatomy of the human and animal embryo

**SKILLS** * To identify cells and tissues and describe their function
* To observe and study the microscopic anatomy of selected differentiated/specialized cell types, tissue types and organs of human
* To develop a professional histological terminology
* To emphasis anatomical change with some discussion of developmental mechanism and physiology

**ATTITUDES*** To gain experience in reading and evaluating scientific literature
* To become familiar with some of the clinical applications of histology in health and disease.
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| Practice | * To observe and study the microscopic anatomy of selected differentiated/specialized cell types, tissue types and organs of human
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**Information about classes in the cycle**

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| A list of topics | 1. **Tissues**: epithelial tissue, muscular tissue (skeletal, cardiac, smooth), connective tissues (c.t. proper cells, c.t. proper fibers (types, classification), cartilage (cells, fibers), bone (types, cells, formation of bones), adipose tissue, blood), nervous tissue
2. **Systems**: cardiovascular, lymphatic, respiratory urinary, digestive, reproductive (male and female), Central Nervous System (CNS), endocrine (pituitary gland, pineal gland, thyroid, parathyroid, suprarenal), sensory (eye, ear, skin)
3. **Embryology**: fertilization, implantation, cleavage, gastrulation, neurulation and organogenesis of a variety of structures
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| Teaching methods | Lecture; lab classes: observation, analysis and interpretation of human organs and microscopic slides |
| Assessment methods | Four assessment tests during the course on which final marki is based, presence on lab classes. |