
Course title: PHYSIOLOGY

ECTS credit allocation (and other scores): 8

Semester: spring

Level of study: ISCED-7 - second-cycle programmes (EQF-7)

Branch of science: Medical and health sciences

Language: English

Number of hours per semester: 87

Course coordinator/ Department and e-mail: Agnieszka Skowrońska, agnieszka.skowronska@uwm.edu.pl

Type of classes: classes and lectures

Substantive content

CLASSES: Cardiac muscle and the heart. The stages of the cardiac action potential. Electrocardiography and Heart sounds. ECG- the transthoracic electrical activity of the heart. Identification and analysis of the amplitude and the duration of the major components of the ECG. Calculation of the heart rate from ECG. The principles of spirometry and how integration of the flow signal gives a volume. Acute and chronic physiological changes in response to exercise stress. Classification of physical efforts. Blood sugar level, hypoglycemia. Mechanisms of urine formation. Regulation of urine concentration and volume. Water balance. Principles of hormonal regulation of reproduction. The male reproductive system. Lactation.

LECTURES: Cardiac muscle the heart as a pump. Rhythmical excitation of the heart. Local and control of the tissue blood flow. Nervous regulation of the circulation, and control of the arterial blood pressure. The microcirculation and lymphatic system. Regulation of respiration. general principles of gastrointestinal function, nervous control and blood circulation. Digestion and absorption in the GI. Acid base-regulation. renal regulation of potassium, calcium, phosphate and magnesium. Renal mechanisms for control of blood volume and extracellular fluid volume. Introduction to endocrinology.

Learning purpose: This course is designed to provide students with an understanding of the function and regulation of the human body.

On completion of the study programme the graduate will gain:

Knowledge: Knows the activities and mechanisms of regulation of all organs and systems of the human body.

Skills: Performs simple functional tests assessing the human body.

Social Competencies: Accepts responsibility for decisions made in the course of professional activities, including in terms of their own safety and that of others.

Basic literature: 1). Arthur C. Guyton, Guyton and Hall. "Textbook of Medical Physiology," 13th Revised Edition , wyd. Elsevier, 2016 ; 2). Costanzo L.S., Physiology, Sixth Edition, wyd. Elsevier, 2017

Supplementary literature: Costanzo L.S., BRS Physiology, Seventh Edition, wyd. Wolters Kluwier, 2018

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 92

Student's independent work: 108