

Study Programme : BSc in Biology			
Degree level: Bachelor degree			
Course Title: Endocrinology			
Professor: Milica Matavulj			
Required/Elective Course: Elective Course			
Number of ECTS: 5			
Prerequisites: Course Histology and Embryology			
Course Objective: This course provides foundations in anatomy and histology of endocrine glands as well as in their physiology. The course, also, addresses endocrine pathophysiology but only as a mean of illustration of the divergence from normal physiology and normal regulation of endocrine function			
Course Outcome: At the end of the course, students should understand the role of the endocrine system in maintenance of homeostasis, the cellular and molecular mechanisms underlying that maintenance, and some of the disease states arising from loss of endocrine regulation of homeostasis			
Course Content: <i>Theoretical part</i> Lectures on Endocrinology cover: Organization of endocrine system (Introduction to Endocrinology). Cytokines and immune-endocrine interactions. Hormone synthesis and release. Mechanism of hormone action. The hypothalamo-hypophysal system. The pineal gland. The thyroid. The parathyroid gland. The adrenal gland (cortex and medulla). Hormonal regulation of glucose, lipid and protein metabolism. Sexual differentiation. Endocrinology of the female reproductive system. Endocrinology of the male reproductive system, Endocrine functions of non endocrine organs (Diffuse endocrine system). Hormones and cancer. Geriatric endocrinology <i>Practical part</i> Laboratory practice covers: (1) Observation of anatomical position and the appearance of the endocrine glands (pituitary, thyroid, parathyroid, pineal and adrenal glands, female and male gonads) on mammalian model. (2) Microscopic slides examination: visualization of the histological arrangement of pituitary, thyroid, parathyroid, pineal and adrenal glands, female (ovarian-corpora lutea) and male (testis-Sertoli and Leydig cells) gonads and recognition of the cell types belonging to each gland. (3) Virtual simulation of different endocrinological processes using computer softwares. (4) Measurement of plasma hormone levels by enzyme linked immunoassay (ELISA).			
Reading List: 1. Matavulj, M., Kostić, T. Andrić, S. (2005). Endokrinology (in Serbian), University of Novom Sadu, Faculty of Sciences, Novi Sad.			
Total hours:			
Lectures: 2	Practicals: 2	Other:	Student research work:
Methods of instruction: lectures, laboratory practice, seminars			
Assessment (maximum number of points 100)			
Requirements	points	Final exam	points
Active participation in lectures	5	Practical exam	30
Active participation in practicals	5	Oral exam	
Test(s) or	60		
Pre-exam testing			