

Course Unit Descriptor

<b>Study Programme:</b> MAS Biology		
<b>Course Unit Title:</b> REPRODUCTIVE BIOLOGY		
<b>Course Unit Code:</b> MB43		
<b>Name of Lecturer(s):</b> prof. dr Silvana Andric, prof. dr Tatjana Kostic		
<b>Type and Level of Studies:</b> Master's studies		
<b>Course Status (compulsory/elective):</b> Elective		
<b>Semester (winter/summer):</b> Winter		
<b>Language of instruction:</b> English		
<b>Mode of course unit delivery (face-to-face/distance learning):</b> face-to-face		
<b>Number of ECTS Allocated:</b> 7		
<b>Prerequisites:</b> Basic medical/animal physiology		
<b>Course Aims:</b> The aim of this course is to study the fundamental mechanisms of the reproductive system functioning and the interconnectedness of different signaling pathways that control reproduction.		
<b>Learning Outcomes:</b> After successfully completing the course, students should acquire basic knowledge about the mechanisms of sex differentiation, reproductive signaling molecules, as well as to be able to describe the function of the reproductive system at different ages.		
<b>Syllabus:</b> <i>Theory</i> Signaling processes and signaling molecules in reproductive physiology. Differentiation and determination of the sex. Physiological basics of puberty and maturation of the hypothalamic-pituitary-gonadal axis. Physiology of the testes. Physiology of the ovaries. Physiological effects of steroid hormones. Regulation of gonadal function in adults. Physiological basis of coitus, fertilization, implantation and the formation of the placenta. Physiological basis of pregnancy, childbirth, lactation and maternal behavior. Fetus and his preparation for the birth. Fertility. Reproductive function during aging. <i>Practice</i> Experimental animals and experimental models (hypogonadal-hypogonadism, androgenization, aging, psychophysical stress, blockade of different receptors (androgen, estrogen, adrenergic, glucocorticoid)). The experimental surgical procedures (castration, ovariectomy, pinealectomy). The reproductive organs of the female and male rats. Oestrus cycle of female rats. Isolation and purification of testicular Leydig cells and investigation of their's functionality. Analysis of transcriptional profiles of specific markers of spermatozoids and Leydig cells.		
<b>Required Reading:</b> Jonson M.H. Essential reproduction. Blackwell, 2007. Neill J.D. Knobil and Neill's Physiology of Reproduction. Lippincott Williams & Wilkins, 2005. Jones R.E. Human Reproductive Biology. Elsevier, 2006. Review papers from the field of Reproductive physiology.		
<b>Weekly Contact Hours:</b>	<b>Lectures:</b> 2	<b>Practical work:</b> 4
<b>Teaching Methods:</b> Lectures, consultations, Other forms of teaching (laboratory exercises, participation in the planning and performing of the		

experiments, as well as in the analysis of results).

**Knowledge Assessment (maximum of 100 points):**

<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class participation		written exam	20
Practical work	40	oral exam	60
Preliminary exam(s)		.....	
Seminar(s)			

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.