

Study program: Reproductive biology			
Study level: Master's studies			
Course title: Preimplantation genetic diagnosis			
Course code: RB14			
Teacher: Assoc. Prof. Dr. Mihajla Đan			
Course status: elective			
ECTS: 5			
Requirements:			
Course objectives: The aim of this course is to introduce students to the principles of preimplantation genetic diagnosis (PGD) and procedures used in preimplantation genetic diagnostics for hereditary diseases of different etiologies.			
Learning outcomes After successfully realized pre-exam and exam obligations student can understand the procedures used in the preimplantation genetic diagnosis, explain the genetic basis of hereditary disorders and define the principles of diagnosis of chromosomal aberrations, monogenic diseases and sex-linked diseases.			
Syllabus <i>Theoretical instruction</i> The history and development of preimplantation genetic diagnosis (PGD). The procedures used in PGD. The genetic basis of hereditary diseases. Preimplantation Genetics. PGD of chromosomal aberrations. PGD of monogenic diseases. PGD of mitochondrial diseases. PGD in clinical cases of infertility. PGD of sex-linked diseases and non-medical sex selection. Preimplantation genetic screening (PGS). Basics of prenatal diagnosis. <i>Teaching laboratory, Other forms of teaching (Practical laboratory), Research activities</i> Karyotyping and diagnosis of chromosomal aberrations - virtual cases. Use of internet resources of genetic basis of hereditary diseases - OMIM. Use of internet sources on the procedures and tests in preimplantation genetic diagnostics. Discussions about the latest scientific information in the field of preimplantation genetic diagnosis - journal club.			
Literature 1. Harper JC. Preimplantation Genetic Diagnosis. Second Edition. Cambridge University Press. 2009. 2. Strachan T., Read AP. Human Molecular Genetics 3. Garland Publishing, New York, USA. 2004. 3. Turnpenny P, Ellard S. Emerijevi osnovi medicinske genetike. XIII izdanje. Datastatus, Beograd, Srbija. 2009.			
Weekly teaching load	Lectures: 2	Teaching laboratory: 2	Other forms of teaching: 0
Teaching methods lectures, practical lectures, seminar, tuition			
Evaluation of knowledge (maximum score 100)			
Pre-exam obligation	points	Final exam	points
Student engagement in lectures		Written exam	
Seminar	Up to 40	Oral exam	Up to 60
Tests			
Practical laboratory			