University of Gdańsk

Subject card

Subject name and code	Human embriology, PG_00203487						
Field of study	Medical Biology						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2026/2027			
Education level	Master's studies		Subject group	Obligatory subject group in the field of study			
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	1		Language of instruction	Polish			
Semester of study	2		ECTS credits	2.0			
Learning profile	academic		Assessment form	exam			
Conducting unit	Department of Medical Biology and Genetics -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Liss				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	0.0	0.0	20
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	20		3.0		27.0	50
Subject objectives	The aim of the course is to acquire theoretical knowledge in the field of the human reproductive system, gametogenesis processes, fertilization mechanisms, early embryonic development, human fertility diagnostics, methods of diagnosing genetic birth defects, as well as focusing on prevention in the field of fertility preservation.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDMU2_W01] has an in-depth knowledge of scientific fields and disciplines relevant to medical biology and the studied specialty and knows their main development trends	Has theoretical knowledge of basic human embryology, fertility diagnostics and prevention, and methods for diagnosing early genetic defects in gametes and embryos.	[SW4] test/exam - oral or written
[BIOLMEDMU2_W03] has an in-depth understanding of the structure and functions of the human body, the biological causes of disorders, pathological changes and social dysfunctions, and the methods used to assess them using modern and current biochemical, molecular, parasitological or neurobiological techniques	Knows the structure and functions of the human reproductive system and the biochemical and molecular methods used in fertility diagnostics.	[SW4] test/exam - oral or written
[BIOLMEDMU2_U04] is able to identify errors and omissions in the practice of the medical biologist's profession and is capable of carrying out complex tasks and working in unforeseen circumstances	Can recognize errors and omissions in fertility diagnosis and prevention	[SU4] test/exam - oral or written
[BIOLMEDMU2_K06] is ready to solve complex ethical problems related to the profession and to determine priorities for the implementation of specific tasks	Can respectfully analyze the problem of infertility	[SK4] test/exam - oral or written
[BIOLMEDMU2_K02] is ready to recognize the importance of knowledge in solving cognitive and practical problems and to seek expert advice when having difficulty solving a problem on his own	He is aware of his own limitations and the need for continuous learning.	[SK4] test/exam - oral or written

Subject contents

1. An outline of the history of embryology
2. The human reproductive system
3. Gametogenesis (oogenesis and spermatogenesis)
4. Molecular mechanisms of fertilization
5. Fertility diagnostics
6. In vitro fertilization, gamete and embryo assessment
7. Cryopreservation of gametes and embryos
8. Early embryonic development
9. Preimplantation genetic diagnosis
10. Congenital defects

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
	51.0%	100.0%

Recommended reading

Basic literature

Bartel H., Embriologia, wyd. 6, Warszawa, PZWL Wydawnictwo Lekarskie, 2020

Embriologia i wady wrodzone Od zapłodnienia do urodzenia. 2021, Wrocław, Edra Urban& Partner autorzy Moore Keith L., T.V.N. Persaud, Torchia Mark G. red. Hieronim Bartel, Maciej Zabel

Molekularne podstawy rozrodczości człowieka i innych ssaków M. Kurpisz, Termedia 2008 (strony 127-231)

	Supplementary literature	Textbook of Assisted Reproductive Technologies D. Gardner, Informa UK 2009; (strony 39-155) Practical Preimplantation Genetic Diagnosis Verlinsky Y, Kuliev A, Springer 2005; (strony:135-157) Gruhn JR, et al. Chromosome errors in human eggs shape natural fertility over reproductive life span. Science. 2019 Sep 27;365(6460): 1466-1469.doi: 10.1126/science.aav7321. Liss J, et al. Current methods for preimplantation genetic diagnosis. Ginekol Pol. 2016;87(7):522-6. doi: 10.5603/GP.2016.0037 Genetyka E. Passarge, PZWL 2004
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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