



REPRODUCTION BIOTECHNOLOGIES

Enrollment year	2018/2019
Academic year	2018/2019
Regulations	DM270
Academic discipline	BIO/05 (ZOOLOGY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	ADVANCED BIOTECHNOLOGY
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	1st semester (01/10/2018 - 14/01/2019)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	ORAL TEST
Teacher	MERICO VALERIA (titolare) - 6 ECTS
Prerequisites	No prerequisites are required
Learning outcomes	<p>The course of Reproductive Biotechnology aims to provide the basic principles of molecular biology and physiology of reproduction of gametes. These knowledge will be applied into clinical practice for the treatment of infertility in couples. A first part of the course will be focused on the most advanced biotechnologies applied to the reproduction, specifically on genetic and ultrastructural studies of male and female gametes, with particular attention to the of Assisted Reproduction Techniques (ARTs). A second part of the course will be focused on the cryopreservation of reproductive cells and tissues as a tool to overcome the adverse effects of diseases and medical or surgical therapies that can potentially inhibit fertility.</p>
Course contents	Gametogenesis and fertilization. The endocrine control of the

	<p>spermatogenesis and oogenesis. Intrinsic and extrinsic causes of male and female infertility. Female and male genesis of the gamete, transference of gametes, fertilization therapies of induction and control of ovulation. Biotechnologies applied to reproduction. Assisted Reproductive Technologies (ARTs). Ethical and legal aspects in ARTs. Cloning. Techniques of cryopreservation of gametes and embryos. Derivation and differentiation of stem cells from cryopreserved embryos.</p>
Teaching methods	Lectures (hours/year in lecture theatre): 48
Recommended or required readings	<p>Biotechnologie della Riproduzione Umana. L.Gandini e A. Lenzi; Carocci Faber.</p> <p>Didactic material provided by the Professor</p>
Assessment methods	Oral exam. The exam includes a short presentation (a power point presentation of max 10 min) on a topic of the program chosen by the student and 2/3 questions chosen by the teacher
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Sustainable development goals - Agenda 2030	\$lbl legenda sviluppo sostenibile