



### REPRODUCTION BIOTECHNOLOGIES

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| <b>Enrollment year</b>     | 2018/2019  |
| <b>Academic year</b>       | 2018/2019  |
| <b>Regulations</b>         | DM270  |
| <b>Academic discipline</b> | BIO/05 (ZOOLOGY)   |
| <b>Department</b>          | DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"  |
| <b>Course</b>              | ADVANCED BIOTECHNOLOGY   |
| <b>Curriculum</b>          | PERCORSO COMUNE  |
| <b>Year of study</b>       | 1°   |
| <b>Period</b>              | 1st semester (01/10/2018 - 14/01/2019)   |
| <b>ECTS</b>                | 6  |
| <b>Lesson hours</b>        | 48 lesson hours  |
| <b>Language</b>            | Italian  |
| <b>Activity type</b>       | ORAL TEST  |
| <b>Teacher</b>             | MERICO VALERIA (titolare) - 6 ECTS   |
| <b>Prerequisites</b>       | No prerequisites are required  |
| <b>Learning outcomes</b>   | <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> |
| <b>Course contents</b>     | Gametogenesis and fertilization. The endocrine control of the  |

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.

**Teaching methods**

Lectures (hours/year in lecture theatre): 48

**Recommended or required readings**

Biotechnologie della Riproduzione Umana. L.Gandini e A. Lenzi; Carocci Faber.  
Didactic material provided by the Professor

**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

**Further information**

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**Sustainable development goals - Agenda 2030**

[\\$bl legenda sviluppo sostenibile](#)