

DOSSIER — OCTOBER 2026 EDITION

Master's Degree in Clinical Genetics of Reproduction and Perinatal Health

DURATION 12 months	FORMAT 100% online	LANGUAGE English	CREDITS 60 ECTS
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Introduction

Knowledge of genetics is essential across multiple clinical fields, particularly gynecology and assisted reproduction. Today it is a fundamental tool for identifying genetic alterations related to male and female infertility, for Preimplantation and Prenatal Genetic Diagnosis, for carrier genetic screening, and ultimately, for reproductive decision-making.

Despite advances in genomic medicine and its major impact on the field of reproduction, training for healthcare professionals in this area is uneven and often insufficient. The lack of specialized training limits the availability of professionals prepared to understand and apply the leading available advances and to advise patients on them.

It is in this context that the Master's Degree in Clinical Genetics of Reproduction and Perinatal Health was created, to address these gaps at both the clinical and laboratory level. Through an up-to-date, applied curriculum, professionals of recognized prestige in reproductive genetics will cover topics such as Preimplantation Genetic Diagnosis, Carrier Screening, Genetic Counseling in Reproduction, Prenatal Diagnosis, and Fetal Diagnostic Techniques, among others.

In addition, students may complement the knowledge acquired in the Master's Degree through supervised on-site internships at INEBIR's facilities in Seville. These internships, which are optional and flexible in scope, can be carried out in the clinical or laboratory area and allow the student to design the training pathway that best fits their objectives and needs. The goal is to provide the student with an immersive learning experience, exposing them to real clinical cases and experiences.

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Objectives

Fundamentals of Human Reproduction Learn the fundamentals of human reproduction, including reproductive physiology, gametogenesis, early embryonic development, and infertility.	Master Assisted Reproduction Techniques Understand assisted human reproduction techniques, with an emphasis on technological innovations and a personalized approach to the patient.
Preimplantation Genetic Testing (PGT) Integrate clinical and bioethical criteria and emerging technologies in preimplantation genetic diagnosis and carrier screening.	Genetic Counseling and Prenatal Diagnosis Acquire tools for effective communication and clinical decision-making in reproductive genetic counseling and prenatal diagnosis.
A Critical, Innovative View of Reproductive Genetics Explore the applications of artificial intelligence, gene editing (CRISPR), and artificial gametes.	Enhance Your Professional Profile Boost your employability in a growing sector with constant demand for trained, expert professionals.

Who It's For

Medical Specialists in Fields Related to Reproductive Medicine Specialist physicians in Obstetrics, Gynecology, Endocrinology, Urology, Clinical Genetics, Andrology, Fetal Medicine, and Reproductive Medicine who want to gain new competencies and improve patient care.	Nurses, Psychologists, and Other Professionals Involved Healthcare staff who are part of, or wish to contribute to, clinical care and support in the field of Reproductive Genetics.
Biologists, Biotechnologists, Biochemists, Geneticists, and Other Professionals Professionals interested in applying the latest advances in genetics to reproduction in the embryology, andrology, and cryobiology laboratory.	Students and Graduates in Health, Biomedical, and Related Sciences Graduates and final-year students in Pharmacy, Biology, Chemistry, Biochemistry, Biotechnology, Biomedicine, Bioinformatics, Genetics, and Nursing seeking to advance their careers and stand out in the job market.

Coordination

Designed by leading professionals in clinical genetics

The Master's Degree has been designed and delivered by professionals of recognized prestige and extensive experience in the field of genetics and personalized reproductive medicine, integrating clinical, laboratory, and biomedical innovation knowledge, all under an ethical, evidence-based approach.

In addition, the Master's Degree is complemented by live practical workshops, supervised on-site internships, and/or a Final Project that allows students to apply the knowledge acquired in a real clinical or laboratory setting.

INEBIR (Institute for the Study of Human Reproductive Biology) is a medical center specializing in assisted reproduction located in Seville, Spain. Since its founding in 2009, it has established itself as a benchmark in reproductive medicine, combining advanced technology with a human, personalized approach to offer treatments tailored to each patient.

INEBIR's multidisciplinary team draws on its extensive experience in assisted reproduction and reproductive genetics to create this unique Master's Degree, whose main objective is to train professionals in the field of reproductive genetics, integrating genetic diagnosis, biomedical innovation, and clinical application in the context of personalized reproductive medicine, under an ethical, multidisciplinary, evidence-based approach.

Dr. José Manuel Navarro Pando

Curriculum Design and Educational Proposal. Director of the Master's Degree.

PhD in Medicine and Surgery.

Specialist in Obstetrics and Gynecology.

Postgraduate degree in Reproductive Endocrinology.

Expert in Minimally Invasive Gynecological Surgery.

Master's Degree in Precision Medicine and Clinical Genetics.

Director of the Human Reproduction and Minimally Invasive Gynecological Surgery Unit at INEBIR.

Curriculum

MODULE 1

Human Reproduction and Assisted Reproduction Techniques

MODULE 2

Reproductive Genetics

MODULE 3

Preimplantation Genetic Testing (PGT)

MODULE 4

Carrier Screening for Recessive Diseases

MODULE 5

Clinical Genetics and Genetic Counseling in Human Reproduction

MODULE 6

Innovation and Advances in Reproductive Genetics

MODULE 7

Prenatal Diagnosis and Fetal Diagnostic Techniques

MODULE 8

Ethics and Legislation in Reproductive Genetics

MODULE 1

Human Reproduction and Assisted Reproduction Techniques

- Physiology of the Male and Female Reproductive Systems
- Hormonal Regulation in Human Reproduction
- Gametogenesis and Early Embryonic Development
- Assisted Reproduction Techniques: Fundamentals and Applications
- Clinical Aspects of Male and Female Infertility
- Innovations in Assisted Reproduction Technologies

Fátima Corrales

Degree in Nursing.
Nurse expert in Minimally Invasive Gynecological Surgery.
Specialist in Reproductive Endocrinology.
Coordinator of the Donation Program at INEBIR.

Maria José González

Degree in Nursing.
Specialist in Reproductive Endocrinology.
Nurse expert in Minimally Invasive Gynecological Surgery.
Nursing Coordinator at INEBIR.

Cristina Labrado

Biologist.
Clinical embryologist.
Specialist in Reproductive Endocrinology.
Director of the Embryology Laboratories at INEBIR.

María Mundi Roldán

Biologist.
Clinical embryologist at INEBIR.
Specialist in Reproductive Endocrinology.

Nicolás Beltramone

Degree in Medicine and Surgery.
Specialist in Gynecology and Obstetrics.
Expert in Assisted Reproduction.
Expert in Minimally Invasive Gynecological Surgery.

Mónica Condes Hervás

Degree in Biotechnology.
Clinical embryologist at INEBIR.
Specialist in Reproductive Endocrinology.

MODULE 2

Reproductive Genetics

- Molecular Genetics and Foundations of Reproduction
- Genetic Regulation in Gametogenesis and Embryogenesis
- Genetic Alterations in Male and Female Infertility
- Epigenetics and Its Impact on Reproduction
- Non-Invasive PGT: Emerging Techniques and Clinical Viability
- PGT-P (Preimplantation Genetic Testing for Polygenic Traits): Advances and Challenges in Polygenic Trait Selection

José Manuel Navarro Pando

PhD in Medicine and Surgery.
Specialist in Obstetrics and Gynecology.

Postgraduate degree in Reproductive Endocrinology.

Expert in Minimally Invasive Gynecological Surgery.

Master's Degree in Precision Medicine and Clinical Genetics.

Director of the Human Reproduction and Minimally Invasive Gynecological Surgery Unit at INEBIR.

Ana Teresa Marcos Rodríguez

PhD in Biological Sciences.
Director of the Genetics Department at INEBIR.

MODULE 3

Preimplantation Genetic Testing (PGT)

- PGT-A (Aneuploidy): Fundamentals and Controversies
- Embryonic Mosaicism and Its Viability
- Alternatives to PGT-A: Predictive Models and Transcriptomic Analysis
- PGT-M (Monogenic) and PGT-S (Structural Chromosomal Abnormalities)
- Non-Invasive PGT: Emerging Techniques and Clinical Viability
- PGT-P (Preimplantation Genetic Testing for Polygenic Traits): Advances and Challenges in Polygenic Trait Selection

José Manuel Navarro Pando

PhD in Medicine and Surgery.
Specialist in Obstetrics and Gynecology.
Postgraduate degree in Reproductive Endocrinology.
Expert in Minimally Invasive Gynecological Surgery.
Master's Degree in Precision Medicine and Clinical Genetics.
Director of the Human Reproduction and Minimally Invasive Gynecological Surgery Unit at INEBIR.

Fernando Beltramone

Doctor of Medicine.
Specialist in Obstetrics and Gynecology.
Postgraduate degree in Reproductive Medicine.
Expert in Minimally Invasive Gynecological Surgery.
Director of the Reproductive Endocrinology Department at Ovum.

MODULE 4

Carrier Screening for Recessive Diseases

- Carrier Genetic Screening: Methodologies and Strategies
- Genetic Testing in Gamete Donors
- Clinical Validation and Reliability of Genetic Tests

Carlos Mata Soto

Degree in Biology.
University Expert in Medical Genetics and Genomics.
Expert in Pharmacogenetics.
Master's Degree in Research and Advances in Biological Analysis and Laboratory Diagnosis.

Fernando Beltramone

Doctor of Medicine.
Specialist in Obstetrics and Gynecology.
Postgraduate degree in Reproductive Medicine.
Expert in Minimally Invasive Gynecological Surgery.
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José Sad Larcher

Degree in Medicine and Surgery.
Specialist in Gynecology and Obstetrics.
Specialist in Gynecological Endocrinology and Reproductive Medicine.
Head of the Sterility and Fertility Section, Gynecology and Obstetrics Department, Córdoba Private University Hospital.

MODULE 5

Clinical Genetics and Genetic Counseling in Reproduction

- Assessment of Genetic Risk of Infertility
- Genetic Approach to Recurrent Miscarriage and Implantation Failure
- Genetic Counseling Strategies in Clinical Practice

Carlos Mata Soto

Degree in Biology.
University Expert in Medical Genetics and Genomics.
Expert in Pharmacogenetics.
Master's Degree in Research and Advances in Biological Analysis and Laboratory Diagnosis.

Fernando Beltramone

Doctor of Medicine.
Specialist in Obstetrics and Gynecology.
Postgraduate degree in Reproductive Medicine.
Expert in Minimally Invasive Gynecological Surgery.
Director of the Reproductive Endocrinology Department at Ovum.

Nicolás Beltramone

Degree in Medicine and Surgery.
Specialist in Gynecology and Obstetrics.
Expert in Assisted Reproduction.
Expert in Minimally Invasive Gynecological Surgery.

MODULE 6

Innovation and Advances in Reproductive Genetics

- Gene Therapies and Gene Editing (CRISPR)
- Artificial Intelligence in Embryo Selection
- Single-Cell Sequencing and Future Trends
- Genetic Engineering of Gametes and Embryos: Principles and Applications
- Genetic Manipulation of Gametes and Development of Artificial Gametes
- Genetic Enhancement through Genome Editing: CRISPR and Germline Gene Therapy

Ana Vértiz González

Degree in Biotechnology.
Master's Degree in Assisted
Human Reproduction
Biotechnology.

Ana Teresa Marcos Rodríguez

PhD in Biological Sciences.
Director of the Genetics
Department at INEBIR.

José Manuel Navarro Pando

PhD in Medicine and Surgery.
Specialist in Obstetrics and
Gynecology.
Postgraduate degree in
Reproductive Endocrinology.
Expert in Minimally Invasive
Gynecological Surgery.
Master's Degree in Precision
Medicine and Clinical
Genetics.
Director of the Human
Reproduction and Minimally
Invasive Gynecological
Surgery Unit at INEBIR.

Aida del Rosal Gutiérrez

Degree in Biotechnology.

MODULE 7

Prenatal Diagnosis and Fetal Diagnostic Techniques

- Non-Invasive Prenatal Testing in Maternal Blood: Fundamentals and Clinical Applications
- Amniocentesis: Indications, Risks, and Genetic Analysis
- Cordocentesis: Diagnostic Utility and Clinical Considerations
- Other Fetal Diagnostic Techniques: Chorionic Villus Sampling, Advanced Genetic Ultrasound, and Fetal MRI

Savino Gil Pugliese

Degree in Medicine.
Specialist in Gynecological
Endocrinology and
Reproductive Medicine.
Expert in Fetal Medicine.
Head of the Fetal Surgery
Program at Córdoba Private
University Hospital.

Mar Moreno Cortés

Degree in Medicine and
Surgery.
Gynecologist, expert in Human
Reproduction at INEBIR.
Coordinator of the Medical
Department at INEBIR.

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MODULE 8

Ethics and Legislation in Reproductive Genetics

- International Regulation of PGT and Carrier Screening
- Controversies in Genetic Selection and Bioethics
- Ethical and Regulatory Aspects of Genetic Engineering in Gametes and Embryos
- Ethical Considerations of PGT-P and Genetic Enhancement through Genome Editing

Carlos Mata Soto

Degree in Biology.
University Expert in Medical Genetics and Genomics.
Expert in Pharmacogenetics.
Master's Degree in Research and Advances in Biological Analysis and Laboratory Diagnosis.

Ana Teresa Marcos Rodríguez

PhD in Biological Sciences.
Director of the Genetics Department at INEBIR.

José Sad Larcher

Degree in Medicine and Surgery.
Specialist in Gynecology and Obstetrics.
Specialist in Gynecological Endocrinology and Reproductive Medicine.
Head of the Sterility and Fertility Section, Gynecology and Obstetrics Department, Córdoba Private University Hospital.

Alejandro González Rodríguez

Degree in Medicine and Surgery.
Specialist in Obstetrics and Gynecology.
Postgraduate degree in Reproductive Endocrinology.
Director of the Polycystic Ovary Syndrome Unit at INEBIR.

Training Calendar

October 2026 Module 1 Module 1 Quiz	November 2026 Module 2 Module 2 Quiz	December 2026 Module 3 Module 3 Quiz
January 2027 Module 4 Module 4 Quiz Final Exam Modules 1–4	February 2027 Module 5 Module 5 Quiz	March 2027 Module 6 Module 6 Quiz
April 2027 Module 7 Module 7 Quiz	May 2027 Module 8 Module 8 Quiz	June 2027 Final Exam Modules 5–8
July 2027	August 2027 2nd Final Exam Sitting	

Upcoming Editions

OCTOBER 2026

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**Master's Degree in Clinical Genetics
of Reproduction and Perinatal Health**

- October 2026 – September 2027
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