Module Proforma

Approved, 2022.02

Summary Information

Module Code	7501CEBMOL
Formal Module Title	Embryology
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Iain Dykes	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Darren Sexton	Yes	N/A
Giles Watts	Yes	N/A
Adam Lightfoot	Yes	N/A
Nicholas Bryan	Yes	N/A
Garry McDowell	Yes	N/A
Adrian O'Hara	Yes	N/A
Sandra Fawcett	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	21
Practical	9
Seminar	3
Tutorial	2
Workshop	7

Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	The aim of this module is to provide a thorough grounding in the process of human embryology and pregnancy.

Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Demonstrate a reflective understanding of the principles of embryonic development.
MLO2	Apply knowledge of embryology and pregnancy to the problems of assisted reproductive technology, congenital disease, stem cell applications and regenerative medicine.
MLO3	Critically evaluate the scientific literature related to this field.

Module Content

Outline Syllabus
• Comparative anatomy and physiology of the mammalian reproductive system • Folliculogenesis, oogenesis and spermatogenesis • Fertilisation and pre-implantation embryo development • Implantation, placental development and functions in foetal-maternal communication • Cellular biology: from basic cellular transduction to endocrine and local factors in reproductive cells and tissues • Endocrine control of the oestrous cycle and pregnancy • Metabolomics and embryo culture requirements • Principles of embryonic development: lineage restriction, morphogens, pattern formation, gastrulation, germ layers • Genetic/epigenetic regulation of cell fate restriction and lineage specification • Embryogenesis and development of the major organ systems • Embryonic stem cells, regenerative medicine and gene therapy • Developmental origin of disease and genetic basis of common congenital disorders

Module Overview

Additional Information
All lectures will be covered by experts in their respective fields who will introduce the basic principles of embryology. Students will be expected to advance their knowledge of the topics covered in lectures throughout the programme by independent research.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Literature Review	50	0	MLO2, MLO3, MLO1
Exam	Oral presentation	50	1	MLO2, MLO3, MLO1