

Semester Course Structure for Master of Science (MSc) in Clinical Embryology

Academic Year: 2026 – 28

Subhash Mukhopadhyay Centre for Stem Cell Biology and Regenerative Medicine
Department of Allied Health Sciences
School of Health and Medical Sciences
Adamas University

Distribution of Papers Semester-wise

Semester I

| Type of Course | Paper Name | Paper Code | No. of Papers | Credit | L-T-P |
|----------------|---|-----------------------|---------------|-----------|---------------|
| CC | Basics in Molecular Biology | RAE401 | 1 | 4 | 4-0-0 |
| CC | Human Reproduction | RAE402 | 1 | 4 | 4-0-0 |
| CC | Embryogenesis | RAE403 | 1 | 4 | 4-0-0 |
| DSE | Introduction to Quality and Patient Safety/Principles of management with special reference to medical laboratory science management | MLT41105/ MLT41109 | 1 | 4 | 4-0-0 |
| RM | Research Methodology (of embryo culture) | RAE404 | 1 | 4 | 3-1-0 |
| FP | Field Project in biochemistry and molecular biology | RAE405 | 1 | 2 | 0-0-2 |
| Total | | | 6 | 22 | 19-1-2 |

Semester II

| Type of Course | Paper Name | Paper Code | No. of Papers | Credit | L-T-P |
|----------------|--|-----------------------|---------------|-----------|--------|
| CC | Fundamentals of Assisted Reproductive Technology (ART) | RAE501 | 1 | 4 | 4-0-0 |
| CC | Andrology | RAE502 | 1 | 4 | 4-0-0 |
| CC | Ethics in ART | RAE503 | 1 | 4 | 3-1-0 |
| DSE | Basic Clinical Biochemistry/Basic Haematology | MLT41108/ MLT41104 | 1 | 4 | 4-0-0 |
| MDE | Biomedical Signal Acquisition & Processing/Biomaterials/SAWYAM MOOC courses approved by the department | BME11008/ BME11010 | 1 | 4 | 4-0-0 |
| FP | Field Project on stem cell and germ cell biology | RAE504 | 1 | 2 | 0-0-2 |
| Total | | | 6 | 22 | 19-1-2 |

The 2nd year (comprising of 3rd and 4th semesters) will involve intensive and rigorous hands-on training on various aspects of Assisted Reproductive Technology using clinical samples at GDIFR

Semester III

| Type of Course | Paper Name | Paper Code | No. of Papers | Credit | L-T-P |
|----------------|--|-----------------------|---------------|-----------|---------------|
| CC | IVF, Cryopreservation Techniques and ICSI | RAE505 | 1 | 4 | 4-0-0 |
| CC | Cytogenetics, Quality Assurance and Control in ART | RAE506 | 1 | 4 | 4-0-0 |
| CC | Reproductive Disorders | RAE507 | 1 | 4 | 4-0-0 |
| DSE | Fundamentals of Histology/Biochemical Metabolism | MLT42107/ MLT42105 | 1 | 4 | 4-0-0 |
| MDE | Introduction to Artificial Intelligence/ Immunology and Bacterial Serology/ SAWYAM MOOC courses approved by the department | ECE11029/ MLT43101 | 1 | 4 | 4-0-0 |
| FP | Field Project on ART* | RAE508 | 1 | 2 | 0-0-2 |
| Total | | | 6 | 22 | 20-0-2 |

*FP on ART at GDIFR

Semester IV

| Type of Course | Paper Name | Paper Code | No. of Papers | Credit | L-T-P |
|----------------|--|-----------------------|---------------|-----------|---------------|
| CC | Bioinformatics and Biostatistics | RAE509 | 1 | 4 | 4-0-0 |
| DSE | General Clinical Microbiology /Cytopathology | MLT41102/ MLT43108 | 1 | 4 | 4-0-0 |
| MDE | Analytical Clinical Biochemistry/Human Anatomy and Physiology/ SAWYAM MOOC courses approved by the department | MLT42106/ MLT41106 | 1 | 4 | 4-0-0 |
| CC | Entrepreneurship Development/Venture Ideation | RAE510 | 1 | 4 | 3-1-0 |
| RP | Research Project* | RAE511 | 1 | 6 | 0-0-6 |
| Total | | | 5 | 22 | 15-1-6 |

*Apprenticeship at GDIFR

TOTAL CREDIT: (22 + 22 + 22 + 22) = 88