



COURSE SPECIFICATION

(Model Organism Research)

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course.	Postgraduate PhD degree of Regenerative Medicine/ RMD
(2) Department offering the programme.	Inter-departmental (Faculty of Medicine)
(3) Department responsible for teaching the course.	Pathology Department
(4) Part of the programme.	Second part (Semester II)–Elective
(5) Date of approval by Faculty Council	9/8/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title.	Model Organism Research
(8) Course code.	RMD605RS1
(9) Total credit hours.	2 Theoretical + 1.5 Laboratory/Practical + 0.5 field work

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

- 1- This course provides the students with advanced theoretical knowledge in working with at least one of the major model organisms used for regenerative biology research, including state-of the-art knowledge on the most recent research results emerging from work on the system.
- 2- Second, they receive direct instruction on how to design and perform experiments to test hypotheses on regeneration work on the model.
- 3- Third, they gain extensive practical laboratory experience on experimental protocols on the model organism.

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding:

On successful completion of the programme, the candidate will be able to:

- A5:** Demonstrate the molecular aspects of cell biology, immunity, differentiation and development, and how they can be investigated experimentally.
- A6:** Explain molecular pathology of human disease, molecular diagnostics and treatment.

B- Intellectual skills:

On successful completion of the programme, the candidate will be able to:

- B2:** Identify the ethical implications of the work in the field of regenerative medicine.
- B3:** Execute and report a research project in order to develop skills necessary for independent research.
- B4:** Apply theoretical concepts to the study of the molecular biology and genetics and evaluate the relationships between theory and practice.
- B5:** Display an awareness of the existence and nature of value judgments.
- B6:** Demonstrate, at a level appropriate to the award, a critical approach in enquiry and a readiness to test hypotheses, interpret scientific data and evaluate published literature.

C- Professional/practical skills:

On successful completion of the programme, the candidate will be able to:

- C1:** Practice appropriate laboratory skills, including safe working practices where relevant.
- C2:** Practice appropriate computer skills.

D- Communication & Transferable skills:

On successful completion of the programme, the candidate will be able to:

D1: Communicate effectively using a variety of formats.

D2: Use effectively a range of information sources.

D3: Organize and present intellectual argument commensurate with the level of award.

D4: Work effectively both alone (e.g. on assignments or during the project) and as part of a team (e.g. in group work, during group discussions and workshops).

D5: Demonstrate key skills in the retrieval, preparation, analysis and interpretation of information from different sources.

D6: Acquire continued self-managed professional development.

D7: Apply the principle of reflective practice.

(3) Course content.

Subjects	Lectures	Clinical	Laboratory	Field	Total Hours
Model Organism Research / RMD605RS1			15 w		
1. Zebra fish 2. C. elegans 3. Neurodegenerative models-1 4. Neurodegenerative models-2 5. Models of drug abuse 6. D M models 7. Carcinogenesis 8. Hepatic fibrosis and necrosis models 9. Kidney damage models 10. Transgenic models 11. Spinal cord injury 12. Myocardial infarction model 13. Rodents and modeling	2		1.5	0.5	4 hours

(4) Teaching methods.

4.1: Lectures

4.2: Practical lab work

(5) Assessment methods:

5.1. Exam Description

The final exam is composed of:

Two written exams (100 marks) 2 hours (Short Essay questions 1 hours 80 marks + MCQ 1 hour 20 marks)

Other logbook activities (Practical part of the course and scientific activities) are assessed by supervisor of the activity without marks

5.2. Marks

Course/ code	Marks					
	Written Exam			Practical Exam	Oral Exam	Total
	Short Essay questions	MCQ	total			
Model Organism research/ RMD605RS1	80	20	100	--	--	100

(6) References of the course:

Text books: Emerging Model Organisms: A Laboratory Manual

(7) Facilities and resources mandatory for course completion:

Lecture halls and data show and MERC labs

Course coordinator: Dr. Mohamed Salama

Programme Director: Prof.Mohamed Sobh

Date: