كيفية إعداد توصيف المقررات الدراسية للدراسات العليا

توصيف المقررات الدراسية يتضمن توضيح أقل المتطلبات الواجب توافرها في طالب الدراسات العليا للحصول على درجة الماجستير والدكتوراه. يشمل توصيف المقرر الدراسي الاتي:

- الأهداف التعليمية للدرجة العلمية
- المعرفة والمهارات التي يجب أن يحصل عليها الطالب في نهاية فترة الدراسة والتدريب
- طرق التدريس (مثال: محاضرات ، ورش عمل، تدريب معملي)
- محتويات المنهج العلمي (الموضوعات العلمية ومراجعها، عدد ساعات تدريس الجزء النظري والعملي والإكلينيكي)
- طرق تقييم الطالب (مثال: الامتحانات بكافة صورها، الحضور، المقال العلمي، log book)
- نظام الامتحانات وكيفية توزيع الدرجات
- طرق التقييم للمقرر الدراسي
- المراجعة السنوية والمسئولين عنها.

PROGRAMME SPECIFICATION FOR POSTGRADUATE DEGREE

This specification provides a concise summary of the main features of the course and the learning outcomes that a typical candidate might reasonably be expected to achieve and demonstrate if he or she takes full advantage of the learning opportunities provided. More detailed information on the specific learning outcomes, context and the teaching, learning and assessment methods of each module can be found in the Programme Descriptions Handbook.

COURSE SPECIFICATION

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	MD of Medical Physiology
(2) Department offering the programme:	Department of Medical Physiology
(3) Department responsible for teaching the course:	Department of Medical Physiology
(4) Part of the programme:	Second part
(5) Date of approval by the Department`s council	10/7/2016
(6) Date of last approval of programme specification by Faculty council	9/8/2016
(7) Course title:	Advanced Medical Physiology
(8) Credit hours	22 theoretical hours + 12 Practical hours
(9) Course code:	PHYS 603 CE
(10) Total teaching hours:	330 hours lectures and 360

	hours practical

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows; (either to be written in items or as a paragraph)

To offer theoretical lectures for PhD students that give them advanced academic background and facilitate their practices on different experimental methodology. Also, it helps PhD students to gain the skills of scientific writing & research and managing a research project

(2) Intended Learning Outcomes (ILOs):

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

A- Knowledge and Understanding

A5 Name the different fluid compartments in the human body, and define moles, equivalents, and osmoles

A6 Name the major electrolytes in body fluids, and state their functions and disturbances

A7Describe the molecular structures of various body tissues and its relation to function.

A8 Point out updates in general & specific functions of the body systems

A9 Point out the recent updates of physiology of exctible tissues including nerves and muslces (skeletal, smooth and cardiac muscles)

A10 Point out recent updates in the mechanisms involved in regulations of different body systems including respiratory system, CVS, digestive, urinary and nervous systems under different conditions of health and disease such as ms exercise, pregnancy, aging and hypoxia

A11 Describe functional organization of autonomic N.S and its action under different situitions and pharmacology of ANS

A12 Demonstrate recent updates in nervous mechanisms involved in regulation of voluntary movments, control of emotions, behaviour, perosnality and body balance and sensory perception

A13 Demonstrate mechanisms aiming at maintenance of homeostatic functions as: pH, body water, electrolytes, osmolarity and body temperature

A14 Describe the mechanisms involved in the endocrine regulation of metabolism, growth and reproduction

A15 Describe the recent theories explainig the mechanisms involved in rhtymic breathing

A16 Pointout the oxidative stress and its role in pathophysiology of some physiological and pathological conditions

A17 Describe the physiological response to stress and recent updates explaining its underlying mechanisms

A18 Describe the impact of ischemia and its underlying mechanisms in different body organs

A19 Describe the mechanism of regulation of food intake and its disbtuibances

A20 Describe some pathophysiological aspects underlying the development of common diseases as hypertension , heart failure, respiratory failure, endocrinal disorders.

A21 Relate all advanced relevant information resources to acquire and evaluate evidence-based information.

A22 Describe recent theories underlying the development of common diseases as hypertension, heart failure, respiratory failure, endocrine disorders, Alzheimer, Parkinsonism, colour blindness colour blindness …etc

A23 Explain ethics and legal implication for the professional practices in physiology

A24 Realize the effects of his professional practices on the environment and ways of the development and maintenance of the environment

B- Intellectual skills

B1 Apply basic and clinically supportive sciences which are appropriate to Physiology related topics.
B2 Argue, and discuss medical issues on evidence based manner
B3 Join different types of knowledge to solve the professional problems.
B4 Abstract a given study results, discussion and conclusion.
B5 Perform scientific research/ thesis about a scientific problem.
B6 Design research protocols
B7 Review a given scientific paper
B8 Develop and maintain scientific base in the basic and clinical Sciences necessary for supervising research in the field of Physiology.

C-Professional/practical skills

C1 Use advanced methods and recent tools such as molecular biology, tissue culture, biopac and power lab system to improve the practice in the area of Physiology.
C2 Manage a research group in biological science
C3 Practice efficiently animal modeling for human diseases
C4 Isolate animal organs and study the effect of various drugs on these organs.
C5 Analyze & interpret research results
C6 Employ the physiology information to interpret the experimental and clinical findings
C7 Apply principles of evidence-based medicine in practice

D- Communication & Transferable skills

D1 present course information effectively in the field of general medicine practice
D2 Research available sources of information and effectively write and prepare an audiovisual presentation to different types of audience
D3 Effectively plan and implement, manage and evaluate courses in the field of advanced medical physiology
D4 Master interpersonal communication skills that result in exchange of information, and collaboration with health professionals.

(3) Course content:

3.1 Lectures

Subjects	Lectures/ Seminars
Physiology of body fluids and cell organelles	**20**
Physiology of autonomic NS	**10**
Physiology of excitable tissues	**20**
Physiology of Blood	**30**
Physiology of Respiratory system	**25**
Physiology of CVS	**50**
Physiology metabolism and nutrition	**35**
Physiology of endocrine system and reproduction	**45**
Physiology of CNS and special senses	**55**
Physiology of GIT	**15**
Physiology of kidney and excretory system	**15**
Physiology of skin	**10**
Total teaching hours	**330**

3.2 Training and Practical Skills

Experimental and Practical Training	Hours
1. Preparation of physiological solutions (Tyrode–Ringer–frog' saline)	10
2. Recording of Aerobic exercise physiology by biopac system	20
3.Measurement of some serum parameters such as blood glucose and serum creatinine by UV spectrophotometer	30
4. Induction of ONE of the followings experimental animal model	30
5.Studying of the effect of ions and drugs on NMJ in frogs and rats by biopac	10
6.Workshop in real time PCR	20
7- Recoding of the factors affecting simple muscle twitch by biopac	20
8. Measurement of pulmonary functions, Galvanic skin resistance (G S R) by and reaction time by biopac system	20
9.Measurement of glucose uptake in skeletal muscle (Diaphragm & gastrocnemius at	20

rest & in response to exercise)	
10. Effects of the drugs and hormones and ions on smooth muscle motility of isolated segment rabbit small intestine	20
11. Effects of the drugs and hormones and ions on smooth muscle motility of isolated uterus and Fallopian tube	20
12. Recording of urodyanmics by pressure transducer by Powerlab system	20
13. Determination of pain threshold in animal by hot plate or paw-pressure test	15
14.Effect of different types of stress on some physiological parameters by Biopac system	15
15. Workshop in detection of gene polymorphism or gene mutation study	30
16. Effects of the drugs and hormones and ions on tracheal smooth muscles motility	10
17. Assessment of Compliance of Rabbit's lung	10
18. Recording ABP in rats by rat tail indirect system and studying the effect of exercise & autonomic drugs	10
18. Effects of the drugs and hormones and ions on contractility of isolated perfused whole heart and isolated atria	10
19. Effects of the drugs and hormones and ions on Aortic strip smooth muscle contraction	10
20. Assessment of platelet aggregation	10
Total practical hours	360

(4) Course matrix ILOs

Course Title	ILOs																									
	Knowledge and understanding																									
Medical Physiology	**a 1**	**a 2**	**a 3**	**a 4**	**a 5**	**a 6**	**a 7**	**a 8**	**a 9**	**a10**	**a1 1**	**a1 2**	**A1 3**	**A1 4**	**A 15**	**A16**	**A 17**	**A1 8**	**A1 9**	**A2 0**	**A21**	**A2 2**	**A 23**	**22 4**	**A 25**	**A 26**
					√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		

Course Title	ILOs																			
	Intellectual skills								practical skills						Communication & Transferable skills					
Medical Physiology	**B1**	**B 2**	**B 3**	**B 4**	**B 5**	**B 6**	**B 7**	**B 8**	**C 1**	**C2**	**C3**	**C4**	**C5**	**C7**	**D1**	**D2**	**D3**	**D4**	**D5**	**D6**
	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		

Lectures	ILOS																											
	Knowledge and understanding																					Intellectual skills						
	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21	A22	A23	A24	B1	B2	B3	B4	B5	B6	B7	B8
Physiology of body fluids and cell organelles	√	√	√	√		√						√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of autonomic NS				√		√	√					√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of excitable tissues				√	√	√						√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of Blood				√		√						√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of Respiratory system				√		√					√	√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of CVS				√		√						√	√	√		√	√	√	√	√	√	√	√	√	√	√	√	√
Physiology metabolism and nutrition				√		√			√			√	√	√	√		√	√	√	√	√	√	√	√	√	√	√	√
Physiology of endocrine system and reproduction				√		√				√		√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of CNS and special senses				√		√		√				√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of GIT				√		√						√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of kidney and excretory system				√		√			√			√	√	√			√	√	√	√	√	√	√	√	√	√	√	√
Physiology of skin				√		√						√	√	√			√	√	√	√	√	√	√	√	√	√	√	√

Experimental and Practical Training	ILOS						
	Practical Skills						
	C1	C2	C3	C4	C5	C6	C7
1. Preparation of physiological solutions (Tyrode–Ringer-frog' saline)	√	√			√	√	√
2. Recording of Aerobic exercise physiology by biopac system	√	√			√	√	√
3.Measurement of some serum parameters such as blood glucose and serum creatinine by UV spectrophotometer	√	√			√	√	√
4. Induction of ONE of the followings experimental animal model	√	√	√	√	√	√	√
5.Studying of the effect of ions and drugs on NMJ in frogs and rats by biopac	√	√			√	√	√
6.Workshop in real time PCR	√	√	√	√	√	√	√
7- Recoding of the factors affecting simple muscle twitch by biopac	√	√	√	√	√	√	√
8. Measurement of pulmonary functions, Galvanic skin resistance (G S R) by and reaction time by biopac system	√	√	√	√	√	√	√
9.Measurement of glucose uptake in skeletal muscle (Diaphragm & gastrocnemius at rest & in response to exercise)	√	√	√	√	√	√	√
10. Effects of the drugs and hormones and ions on smooth muscle motility of isolated segment rabbit small intestine	√	√	√	√	√	√	√
11. Effects of the drugs and hormones and ions on smooth muscle motility of isolated uterus and Fallopian tube	√	√	√	√	√	√	√
12. Recording of urodyanmics by pressure transducer by Powerlab system	√	√	√	√	√	√	√
13. Determination of pain threshold in animal by hot plate or paw-pressure test	√	√	√	√	√	√	√
14.Effect of different types of stress on some physiological parameters by Biopac system	√	√	√	√	√	√	√
15. Workshop in detection of gene polymorphism or gene mutation study	√	√	√	√	√	√	√
16. Effects of the drugs and hormones and ions on tracheal smooth muscles motility	√	√	√	√	√	√	√
17. Assessment of Compliance of Rabbit's lung	√	√	√	√	√	√	√
18. Recording ABP in rats by rat tail indirect system and studying the effect of exercise & autonomic drugs	√	√	√	√	√	√	√
18. Effects of the drugs and hormones and ions on contractility of isolated perfused whole heart and isolated atria	√	√	√	√	√	√	√
19. Effects of the drugs and hormones and ions on Aortic strip smooth muscle contraction	√	√	√	√	√	√	√
20. Assessment of platelet aggregation	√	√	√	√	√	√	√

(5) Teaching methods:

Method	ILOS assessed by the exam.
5.1: Lectures	A5-A24, B1-B8
5.2: practical sections	C1-C7
5.3: Seminars	A5-A24, B1-B8,D1-D4

(6) Assessment methods:

Tools	Mark	Percentage of the total mark	ILOS assessed by the exam.	Schedule
6.1 MCQ exam	40	10 %	A5-A24,B1-B8	Feb/Sept
6.2 Written exam	160	40%	A5-A24,B1-B8	May/Nov
6.3 Oral exam	100	25 %	A5-A24,B1-B8, C1-C7	May/Nov
6.4 Practical exam	100	25%	C1-C7	May/Nov
Total marks	400			

(7) References of the course:

6.1: Hand books: Staff member books & lecture notes

6.2: Text books:

a) Textbook of Medical Physiology (Guyton & Hall).

b) Review of Medical Physiology (William F. Ganong).

6.3: **Web sites:** *http:// Advan. Physiology.org*

(8) Facilities Required for Teaching And Learning:

The facilities include: appropriate teaching accommodation, teaching aids, laboratories, laboratory equipment, computer, etc, facilities for field work, site visits, etc, which are necessary for teaching the course.

(9) Facilities and resources mandatory for course completion:

1- Attendance Criteria:

Minimum acceptance attendance in each course is 75%

2- Assessment tool:

Minimum percentage accepted is 60% of total marks

Course coordinator: Dr. Abdelaziz M. Hussein

Head of the department: Prof. Sabry Mohammed Awad Gad