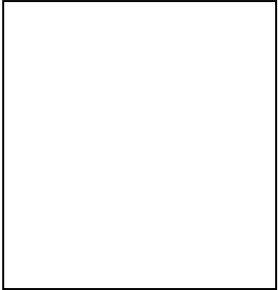




# Logbook of MD of Medical Physiology



**Personal Data**



Name: .....  
Department : .....  
Mobile Number:.....  
E-mail Address: .....

Master Degree:  
Date of registration: ...../...../.....

MD/PhD Degree:  
Date of registration: ...../...../.....

Signature.

Head of the Department

Vice Dean for research and postgraduate study



### Aim of the Logbook.

To provide evidence that the candidate attained the desired level of competence required to gain the award. In this book, the candidate will document all academic and clinical skills he/she attained during their training.

### Important regulations (for MD/PhD candidates).

- To be legible for the first part MD exam you have to attend at least 70% of the lectures of each course in the semester as evidenced by the logbook
- To be legible for the (MCQ online) exam at the end of each of second part semesters you have to attend at least 70% of the lectures of each course/module in the semester as evidenced by the logbook.
- To be legible for the final MD/PhD exam.
  - 1- A time interval of 36 months must pass since the day of degree registration.
  - 2- You have to take your practical/clinical training three times/week for two years.
  - 3-You have to register 5 semesters on Ibn Ikhaym registration page.
  - 4- You have to attend 70% of the lectures of each course in the second part of MD/PhD degree.
  - 5- You have to fulfill and perform 70% of the practical skills documented in the logbook.



## Bylaws of the MD

***I. The candidate should fulfill all required*** scientific activities specified in this Logbook.

*Logbook activities include the followings;*

***a) Theoretical courses (30 credit hrs): distributed as follow;***

***1. First part (in semesters 1) (lectures): 5 credit hrs***

***2. Second part (in semesters 3-6) (lectures): 25 credit hrs***

***b) Practical training and classes for 36 months (in semesters 1-6): 12 credit hrs***

***c) Activities (seminars, conference and articles reviewing) (in semesters 1-6): 3 credit hrs***

*- All details of hours and courses, practical and activities are mentioned in table in page 4.*

*- 75% of credit hrs is the minimum required before the candidate is allowed to submit for the final MD examination.*

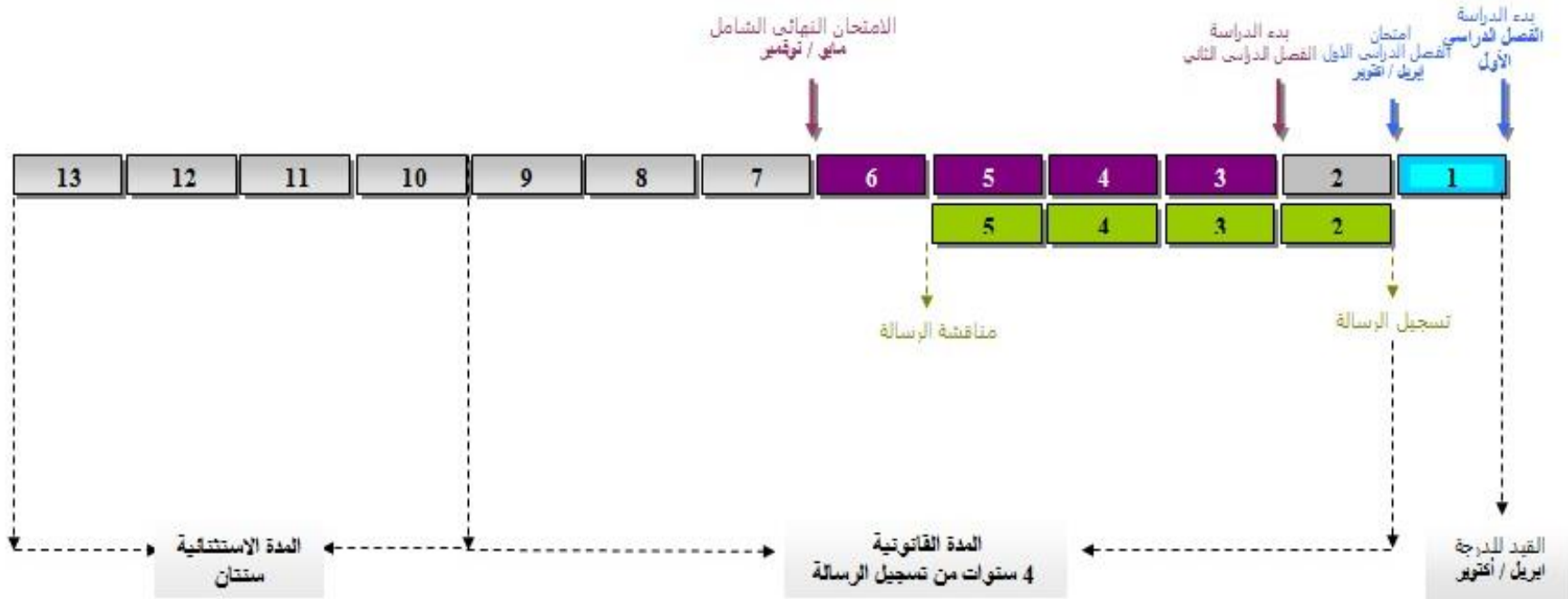
***II. The minimum requirement*** of each individual Logbook activity is shown as follow:

***a) Attendance of seminars & journal clubs of others (at least 2 credit hrs)***

***b) Attendance of thesis discussion (at least 1 credit hr).***



## درجة الدكتوراه



- إلغاء القيد
- 1- مرور عام دون أن يتقدم الطالب لامتحان الفصل الدراسي الأول بدون عذر مقبول أو إيقاف قيد
  - 2- إنتهاء المدة القانونية والاستثنائية للحصول على الدرجة

- مدة الدراسة والساعات المعتمدة
- 6 فصول دراسية : 60 ساعة معتمدة
- الجزء الأول : فصل دراسي واحد : 5 ساعات  
الرسالة : 4 فصول دراسية : 15 ساعة  
الجزء الثاني : 4 فصول دراسية
- \* المقررات الدراسية النظرية : 25 ساعة معتمدة  
\* كراسة الأنشطة : 15 ساعة معتمدة





## Schedule of Courses of MD in Medical Physiology

<b><u>First part</u></b>					
Year	Sem	Theoretical courses		Activities	
		Elective	Compulsory		
		Lectures	Lectures		
<b>First Year</b>	<b>Sem 1</b>	-----	5 Credit hr (5 hr per week for 15 weeks)	0.5 Credit hr (2 hr per week for 15 weeks)	
<b><u>Second part</u></b>					
		Theoretical courses		Practical	Activities
		Elective	Compulsory		
		Lectures	Lectures		
<b>Second year</b>	<b>Sem 3</b>	3 Credit hr (3 hr per week for 15 weeks)	5 Credit hr (3 hr per week for 15 weeks)	2 Credit hr (4 hr per week for 15 weeks)	0.5 Credit hr (2 hr per week for 15 weeks)
	<b>Sem 4</b>		6 Credit hr (4 hr per week for 15 weeks)	2 Credit hr (4 hr per week for 15 weeks)	0.5 Credit hr (2 hr per week for 15 weeks)



<b>Third Year</b>	<b>Sem 5</b>		5 Credit hr (4 hr per week for 15 weeks)	2 Credit hr (4 hr per week for 15 weeks)	0.5 Credit hr (2 hr per week for 15 weeks)
	<b>Sem 6</b>		6 Credit hr (4 hr per week for 15 weeks)	2 Credit hr (4 hr per week for 15 weeks)	0.5 Credit hr (2 hr per week for 15 weeks)

**Key: The credit hours are calculated as follow:**

- 1) 1 hour **theoretical lecture** per week = 1 credit hour.
- 2) 2 hours **practical class** per week = 1 credit hour.



## **Contents**

### ➤ First part (Semester 1)

- ✓ Section I: Scientific lectures.

### ➤ Second part (Semester 3,4, 5, & 6)

- ✓ Section I: Scientific lectures.
- ✓ Section II: practical skills
- ✓ Section III : Seminars
- ✓ Section IV: Student teaching sections
- ✓ Section V: Scientific activities

(Journal club / Attended Thesis discussion/ Conferences  
/Workshops)

### ➤ Final report





# **First Part**

## **(Semester 1)**



## Section I: Scientific lectures.



**Name of the course: Sport Physiology**

**Compulsory**

**First part**

**Credit hours: 5**

**Semester: (spring/fall/summer) year.....**

Date	Title of the lecture	Lecturer's signature
	Physiology of skeletal ms contraction and DHP and raynodine receptors	
	Types of Muscle Exercises	
	Biomechanics of Skeletal Muscle Contraction	
	Energy Systems During Muscle Exercise	
	Skeletal Muscle Metabolism and Nutrients Used During Muscle Activity	
	Effect of Athletic Training on Muscles and Muscle Performance.	
	Muscle Hypertrophy	
	Hereditary Differences Among Athletes for Fast-Twitch Versus Slow-Twitch Muscle Fibers.	
	Respiratory system and ms exercise	
	CVS and muscle exercise	
	Body metabolism and ms exercise	
	Homeostasis and body fluids in Exercise	
	Body fitness and athletes	
	Anti-inflammatory effects of muscle exercise	



	Muscle exercise in some health problems such as diabetes and neurodegenerative disorders	
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# Second Part

## Semester (3, 4, 5,&6)





# Section I: Scientific lectures



**Name of the course: Adolescence Physiology**

**Elective**

**Second part**

**Credit hours:**

**Semester: (spring/fall/summer) year.....**

Date	Title of the lecture	Lecturer's signature
	Physiology of hypothalamic regulation of gonadal axis	
	Growth factors	
	Hormonal changes in childhood and puberty	
	Physical changes during pubertal transition	
	Growth in childhood and puberty	
	Bone development in childhood and puberty	
	Body weight and puberty	
	Environmental factors and epigenetics of gametogenesis in puberty	
	Abnormalities of puberty	





**Name of the course: Medical Physiology**

**Compulsory Second part**

**Credit hours: Semester: (spring/fall/summer) year.....**

**Module(1)**

Date	Title of the lecture	Lecturer's signature
	Functions of sympathetic N.S	
	Effect of aging on Nerve and muscle	
	Cell membrane and communication and cytoskeleton	
	Functions of sympath N.S	
	Effect of pregnancy on Nerve and muscle	
	Membrane receptors	
	Functions of parasympathetic N.S.	
	Effect of Oxidative stress on sk.M contraction	
	Ionic gates	
	Functions of parasympathetic N.S.	
	SK. Ms glucose uptake	
	Homeostatic control system	
	Function of sympathetic N.S under different situations	
	SK. Ms fatigue in different muscle fibers	



	Essential chemical element in body	
	Function of parasympathetic N.S under different situations	
	Muscle as secretory organ	
	Osmotic pressure and osmotic Flow	
	Higher control of ANS	
	DHPR and raynodine receptors	
	Ultrasound	
	Site of action of sympathy and parasympathetic	
	Ca <sup>+2</sup> regulation of diabetic skeletal ms	
	Revision	
	Synapses	
	Effect of polypeptides on NMJ	
	Cholinesterase enzymes	
	Carbonic anhydrase and SK.Ms function	
	Cholinergic receptors	
	Uterine contraction and factors Modulating it	
	Adrenergic transmission	
	Anti inflammatory effect of exercise	
	Adrenergic receptor, denervation super sensitivity	





**Name of the course: Medical Physiology**

**Compulsory**

**Second part**

**Credit hours:**

**Semester: (spring/fall/summer) year.....**

**Module(2)**

Date	Title of the lecture	Lecturer's signature
	Regulation of GI function	
	Bone as endocrinal organ	
	Humeral control of kidney function	
	Mastication and deglutition	
	Bone remodeling	
	Clearance and its application	
	Gastric secretion	
	Menopause and andropause	
	Body fluids osmolarity and its control	
	Gastric motility	
	Puberty	
	Na homeostasis	
	Liver	
	Puberty	



	K homeostasis	
	Pancreas	
	Sex determination and sex differentiation	
	Acid base balance	
	Small intestinal secretion	
	Function of placenta	
	Micturition	
	Small intestinal motility, absorption	
	Physiology of labor	
	Adaptation of kidney to glomerular or tubular loss	
	large intestinal secretion	
	Gestational D.M.	
	large intestinal motility	
	Physiology of growth	
	Defecation and continence and incontinence	
	Human semen	
	Basal electrical rhythm	
	Effect of aging on endocrinal secretion	
	PGs and GI function	
	Updates in mechanisms of rhythmic breathing	



Adaptation to hypoxia and high partial pressures of gases





**Name of the course: Medical Physiology**

**Compulsory Second part**

**Credit hours: Semester: (spring/fall/summer) year...**

**Module(3)**

Date	Title of the lecture	Lecturer's signature
	Visual pathway	
	Neurotransmitter	
	Oxidative stress	
	Phototransduction	
	Integration of somatic sensation	
	Stress and adaptation	
	On off phenomena	
	Spinal cord function	
	Protein intake and obesity	
	Cochlear potential	
	Regulation of posture and equilibrium	
	Metabolic functions of liver	
	Sound discrimination	
	Planning and execution of voluntary movement	



	Thermal stress and fever	
	Hair cells, and auditory pathway	
	C.S.F (formation, exchange, clinical application	
	Skin physiology	
	Afterimage and flickering	
	Functions of intraocular fluids and accessory extrocular structures	
	Behavior and motivation	
	Hepatic circulation in health and diseases	
	Taste preference	
	Brain activating system	
	Retina and oxidative stress	
	Memory	
	Olfactory mucosa(odor discrimination)	
	Sensory feedback of motor function	
	Effect of hypoxia on eye	
	Physiology of Sleep	





**Name of the course: Medical Physiology**

**Compulsory Second part**

**Credit hours: Semester: (spring/fall/summer) year....**

**Module(4)**

Date	Title of the lecture	Lecturer's signature
	Plasma proteins	
	Mechanism of respiration	
	Cardiac performance	
	Blood volume, TBW	
	Efficacy of ventilation	
	Comparative study on coronary and pulmonary And cerebral circulation	
	Blood Haemeostasis and its disorders	
	Work of breathing and small airway	
	CV function, in pathological situation	
	Blood RBCS	
	Control of respiration	
	CVS receptor and reflexes modify them	
	Blood group and blood transfusion	



	Pattern of breathing	
	Portal circulation relation with countercurrent system	
	Blood WBCS, Immunity	
	Gas transport by blood	
	Physiology of exercise	
	Pulmonary Compliance	
	Hormones and cardiac ischemia and reperfusion	
	Pulmonary Circulation	
	Recent theories of cardiac electrical potential	
	Hypoxia and hyperbaric oxygen	
	Cutaneous circulation	
	CVS responses to physiological stress	
	Artificial respiration	
	Age dependent CVS change	
	Cyanosis and air embolism	
	Cardiac receptors and its significance	
	Physiology of sleep	
	Endothelial cell in physiology and diseases	



## **Section II: Practical Skills**



## List of requirements

Name of the experiment	Total number required	Observer	Assistant	Independent
1-Recording of the effect of temp, frequency, ions (Ca <sup>2+</sup> and Mg <sup>2+</sup> and theophylline on simple muscle twitch by biopac	٣	١	١	١
2-Measurement of pulmonary functions, Galvanic skin resistance ( G S R) by and reaction time by biopac system	٣	١	١	١
	٣	1	1	1
	٣	1	1	1
3-Measurement of <b>glucose uptake in skeletal muscle</b> (Diaphragm & gastrocnemius ) (at rest & in response to exercise)	٣	١	١	١
4-Effects of the followings on <b>smooth muscle motility of isolated segment rabbit small intestine</b> a) Temperature b) Ions: ca. K <sup>+</sup> , Mg <sup>2+</sup> . c) Ion channel blockers d) Autonomic drugs e) Autacoids f) Some GIT hormones	٣	١	١	١
5-Recording of urodyanmics by pressure transducer by Powerlab system	٣	١	١	١



## List of requirements

Name of the experiment	Total number required	Observer	Assistant	Independent
6-Determination of <b>pain threshold in animal</b> by hot plate or paw-pressure test and studying the effect of some drugs e.g. opiates on pain threshold in rats hormones.	٣	١	١	١
<b>7- Effect of different types of stress</b> (exercise – cold – pain – noise) on some physiological parameters by Biopac system	٣	١	١	١
8- Workshop in detection of <b>gene polymorphism or gene mutation</b> study	٣	١	١	١
9-Effects of the followings on <b>tracheal smooth muscles motility</b> a) Temperature b) Ions: ca. K+, Mg2+. c) Ion channel blockers d) Autonomic drugs e) Autacoids	٣	١	١	١
<b>10-Assessment of Compliance of</b> Rabbit's lung	٣	١	١	١





## List of requirements

Name of the procedure/operation	Total number required	Observer	Assistant	Independent
11-Recording ABP in rats by rat tail indirect system and studying the effect of exercise & autonomic drugs	٣	١	١	١
12-Effects of the followings on Aortic strip smooth muscle contraction a) Temperature b) Ions: ca. K <sup>+</sup> , Mg <sup>2+</sup> . c) Ion channel blockers d) Autonomic drugs	٣	١	١	١
13-Assessment of platelet aggregation	٣	١	١	١



## Practical Experiments log

**Experiment 1:** Recoding of the effect of temp, frequency, ions (Ca<sup>+2</sup> and Mg<sup>+2</sup> and theophylline on simple muscle twitch by biopac

Level of participation	Date	Location	Signature of supervisor

**Experiment 2:** Measurement of pulmonary functions, Galvanic skin resistance ( G S R) by and reaction time by biopac system





**Experiment3:** Measurement of **glucose uptake in skeletal muscle** (Diaphragm & gastrocnemius ) (at rest & in response to exercise)

<b>Level of participation</b>	<b>Date</b>	<b>Location</b>	<b>Signature of supervisor</b>

**Experiment4:** Effects of the followings on **smooth muscle motility of isolated segment rabbit small intestine**

- a) Temperature    b) Ions: ca. K+, Mg2+.    c) Ion channel blockers    d) Autonomic drugs  
 e) Autacoids    f) Some GIT hormones

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**Experiment 5: Recording of urodynamic by pressure transducer by Powerlab system**

Level of participation	Date	Location	Signature of supervisor

**Experiment 6: Determination of pain threshold in animal by hot plate or paw-pressure test and studying the effect of some drugs e.g. opiates on pain threshold in rats hormones**




**Experiment 7: Effect of different types of stress** (exercise – cold – pain – noise) on some physiological parameters by Biopac system

Level of participation	Date	Location	Signature of supervisor

**Experiment 8: Workshop in detection of gene polymorphism or gene mutation study**




**Experiment 9:** Effects of the followings on **tracheal smooth muscles motility**

- a) Temperature    b) Ions: ca. K<sup>+</sup>, Mg<sup>2+</sup>.    c) Ion channel blockers  
 d) Autonomic drugs    e) Autacoids .

<b>Level of participation</b>	<b>Date</b>	<b>Location</b>	<b>Signature of supervisor</b>

**Experiment 10** **Assessment of Compliance** of Rabbit's lung .






**Experiment 11: Recording ABP in rats by rat tail indirect system** and studying the effect of exercise & autonomic drugs

Level of participation	Date	Location	Signature of supervisor

**Experiment 12: Effects of the followings on Aortic strip smooth muscle contraction**  
 a) Temperature                      b) Ions: ca. K<sup>+</sup>, Mg<sup>2+</sup>.  
 c) Ion channel blockers            d) Autonomic drugs




**Experiment 13: Assessment of platelet aggregation**

<b>Level of participation</b>	<b>Date</b>	<b>Location</b>	<b>Signature of supervisor</b>

**Level of participation:**

Observer

Assistant

Independent



# Section III:

# Seminars





**List of requirements:**

**1- Seminar attendance: 30 (no. of times required)**

**2- Seminar performance: 12 (no. of times required)**

**1- Attendance**

Topic	Date	Supervisor signature











## 2- Performance

<b>Topic</b>	<b>Date</b>	<b>Supervisor signature</b>



# **Section IV: Student teaching sections**



**List of requirements:** ∘ ∘ (No. of times required)

Date	Section subject	Supervisor's signature



Date	Section subject	Supervisor's signature



Date	Section subject	Supervisor's signature



Date	Section subject	Supervisor's signature





Date	Section subject	Supervisor's signature



**Section V: Scientific  
activities  
(Journal club / Attended  
Thesis discussion/  
Conferences /Workshops)**



## Journal Club

### List of requirements:

- 1. Journal club attendance: 15 (no. of times required)**
- 2. Journal club performance: 8 (no. of times required)**

### 1- Attendance

Topic	Date	Supervisor signature






## 2. Performance

Topic	Date	Supervisor signature



## Attended Thesis Discussions

### List of requirements:

**Thesis discussion attendance: 5 (no. of times required)**

Title	Date	Supervisor signature





## **Conferences/ Workshops**

### List of requirements

<b>Conferences</b>			
<b>Total number required</b>	<b>Attendance</b>	<b>Organization</b>	<b>Presentation</b>
٥	٣	١	١
<b>Workshops</b>			
<b>Total number required</b>	<b>Attendance</b>	<b>Organization</b>	<b>Presentation</b>
٦	٢	٢	٢

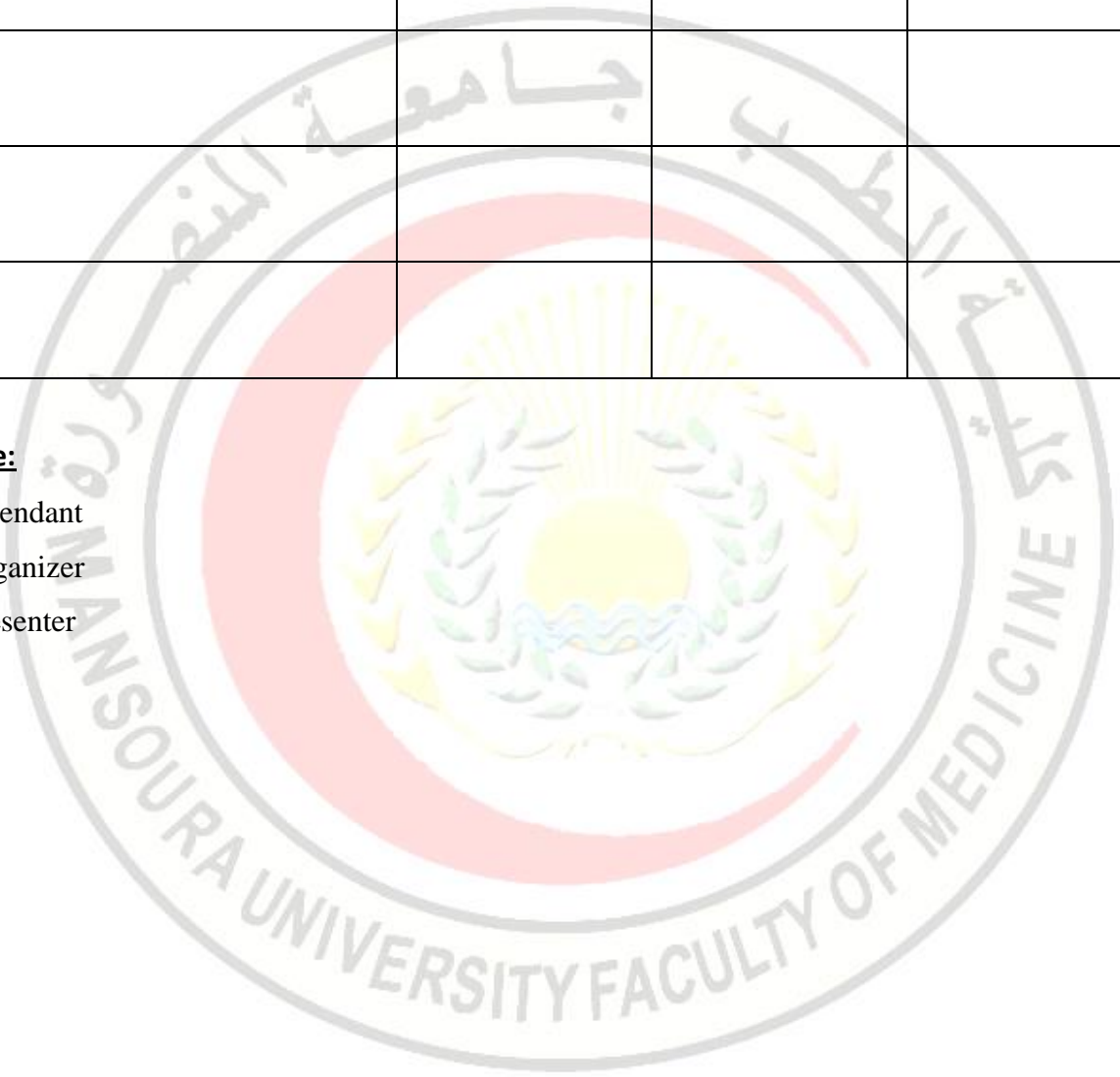


<b>Activity (Conference/Workshop)</b>	<b>Role</b>	<b>Date</b>	<b>Supervisor's signature</b>




**Role:**

- Attendant
- Organizer
- Presenter





## Final Report

			Level of Performance				Attendance Hours			Academic advisor signature
			A	B	C	D	TH	AH	AH%	
<b>First part</b>	Compulsory course	lectures								
	Sem 1									
<b>Second part</b>	Elective course	Lectures								
	Compulsory course	Lectures								
		Practical								
	Training program									
Activities										

- Scoring of performance, A= excellent, B= sufficient, C= weak, D= unacceptable
- Attendance hours, TH= total hours, AH= attended hours, AH%= percentage of attended hours

*Coordinator*

*Academic Advisor*

*Head of Department*