

## Peer Revision

<b>Date of Revision</b>	<b>University</b>	<b>Reviewers</b>
10/12/2011	Cairo	- Prof. Dawlat Salem
28/11/2011	Mansura	- Prof. Ahmad K. Mansur

# Program Specification of Master degree in Medical Physiology

Sohag University

Faculty of medicine

## A. Basic Information

1. Program title: Master of medical physiology.
2. Program type: Single
3. Faculty: Faculty of Medicine
4. Department: Medical Physiology
5. Coordinator: Dr. Hoda Mostafa
6. Assistant coordinators: Mohamed Ashraf
7. External evaluator: Pr. Ismaiel Ali Mahmoud (El Azher Cairo Univerisity ).
8. Last date of program specifications approval: Faculty council No"317", decree No. "1533" dated 17/12/2018.

## B. Professional Information

### 1. Program aims

The aim of this program is to provide the postgraduate with medical knowledge and skills essential for the practice of medical f physiology and necessary for further training and practice in field of medical physiology.

1. To gain scientific knowledge essential for practice of medical physiology according to the international standards
2. Skills necessary for applying scientific methods in field of medical physiology.
3. Ethical principles related to practice in medical physiology.
4. Active participation in community need assessment and problem solving
5. Maintainence of learning ability necessary for continuous medical application
6. Maintainence of research interests and abilities

### 7. Attributes of the post graduate:

8. Mastering the basics of scientific research methodologies.
9. The application of the analytical method and used in the field of physiology
10. The application of specialized knowledge and integrate it with the relevant knowledge in practice.
11. Be aware of the problems and has modern visions in the field of physiology
12. Identify problems in the field of physiology and find solutions to them.
13. Mastery of professional skills in this specialty and use of the appropriate recent technologies supporting these skills.
14. Communicate effectively and the ability to lead work teams.
15. Decision-making in his professional contexts.
16. To employ and preserve the available resources to achieve the highest benefit.
17. Awareness of his role in the community development and preservation of the environment at the lights of both international and regional variables.
18. Reflects the commitment to act with integrity and credibility, responsibility, and



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17. Awareness of his role in the community development and preservation of the environment at the lights of both international and regional variables.
18. Reflects the commitment to act with integrity and credibility, responsibility and commitment to rules of the profession.
19. Academic and professional self development and be capable of continuous learning

**20. Intended learning outcomes (ILOs)**

a) **Knowledge and understanding**

By the end of the study of MASTER program in medical physiology

The graduate should be able to:

1. Mention fundamentals ,theories and basic knowledge in the field of cell physiology
2. List the fundamentals and basic knowledge in the field of medical physiology of body systems and their control in case of health and disease
3. Mention scientific developments in the field of medical physiology.
4. Mention the mutual influence between professional practice and its impacts on the environment.
5. Mention Ethical and legal principles of professional practice in the field of physiology
6. Describe The principles and fundamentals of quality in professional practice in the field of medical physiology
7. Describe the basics and ethics of scientific research.

**Optional ILOS**

8. List concepts, fundamentals and knowledge in biochemistry that are physiology related.
9. Mention and trace the pharmacological effects of drugs on physiology of the cell and body systems
10. Describe and explain some diseases in any specialty e.g. neurology and explain them on physiological base and trace the physiology of other systems .in association with those diseases

b) **Intellectual skills**

By the end of the study of master program in medical physiology the Graduate should be able to:

1. Interpret ate physiological data information in the field of medical physiology and use it for evaluation of function of different body systems.
2. Select from different diagnostic tools the one that can reach final solving problems in the field of medical physiology.
3. Link between knowledge for Professional problems' solving.
4. Conduct a research study and / or writing a scientific study on a research problem.
5. Assess risks in professional practices in the field of medical physiology
6. Plan for the development of performance in the field of medical physiology
7. Identify physiological problem and find solves.
8. Analyze research and issues related to medical physiology

**Optional ILOS**

9. Identify the correlation between chemical reactions and physiological phenomena
10. Analyze deviation from normal physiology on biochemical bases

11. Correlate between pharmacological effects of drugs and changes in physiology
12. Correlate between (any specialty diseases) e.g. neurological diseases symptoms ,signs and normal physiology

**c) Professional and practical skills**

By the end of the study of master program in medical physiology the Graduate should be able to:

1. Master of the basic and modern professional skills in dissection of lab animals and isolation of certain organs.
2. Estimate vital variables in lab animals e.g. blood pressure.
3. Estimate certain physiological values and variables in human.
4. Perform and use instruments and devices in evaluation of body system of physiology e.g. ECG and respirometers.
5. Write and evaluate of physiological reports.
6. Assess of methods and tools existing in the area of physiology

**Optional ILOS**

7. Use chemical agents , instruments or devices to estimate levels of certain chemical s in body fluids
8. Assess and evaluate drug pharmacological; effects on lab animals. physiology
9. Use pharmacological instruments tools or devices to estimate drug bioavailability in health and disease
10. Use clinical skills and devices in assessment of body function in health and in certain specialty diseases e.g. neurological disease.

**d) General and transferable skills**

By the end of the study of master program in medical physiology the Graduate should be able to:

1. Communicate effectively by different types.
2. Use of information technology to serve the development of professional practice.
3. Assess himself and identify personal learning needs
4. Use different sources to obtain information.
5. Develop rules and indicators for assessing
6. Work in a team, and lead teams in various professional contexts.
7. Manage time efficiently.
8. Learn himself efficiently

**9. Academic standards**

Sohag faculty of medicine adopted the general national academic reference standards (NARS) provided by the national authority for quality assurance and accreditation of education (naqaae) for postgraduate programs. This was approved by the faculty council degree No 6854, in its session No.177. Date 18-5-2009. Based on these NARS; Academic References standard (ARS) were suggested for this program. These ARS were revised by external evaluator and approved by faculty council degree No 7528, in its session No. date 15/3/2010. The adoption of NARS and the suggested ARS were approved by University council degree No 587, in its session No.60. dated 26-12-2011.

**5. Curriculum Structure and Contents**

Program duration: 6 semesters (3 years)

No. of hours per week

clinical	practical	lectures	subjects
			<b>First part</b>
	10	8	1-(Optional) 1/3 a -Biochemistry
	10	8	b- pharmacology
10		8	c-Any speciality e.g. neurology
	2	1	2- Biostatistic & Computer and Research Methodology
			<b>Second part</b>
	3.6	3	<b>Physiology</b>

code	Item	No	%	
		Compulsory	37	74
		Elective	0	0
		Optional	13	26
b.iii	credit hours of basic sciences courses	13	26	
b.iv	credit hours of courses of social sciences and humanities	0	0	
b.v	credit hours of specialized courses:	24	48	
b.vi	credit hours of other course	15	30	
b.vii	Practical/Field Training	5	10	
b.viii	Program Levels (in credit-hours system):			
	Level 1: 1 <sup>st</sup> part	15	30	
	Level 2: 2 <sup>nd</sup> Part	24	48	
	Level 3: Thesis	6	12	

## 6. Program courses: 2 compulsory+1/3 optional

### 6.1- Level of Program.

Semester...1.....

First part

1<sup>st</sup> part; 1/3 optional course + 1 compulsory course

Programme ILOs Covered(By NO.)	No. of hours/week			
	Lab./clinical	Lect.		
a8; b9, b10, c7, d1,d2,d3,d4, d5,d6,d7,d8	10	8	13	1-(Optional) 1/3 a-biochemistry
a9,b11,c8,c9,d1,d2,d3,d4, d5,d6,d7,d8	10	8	13	b-pharmacology
a10,b12,c10, d1,d2,d3, d4,d5,d6,d7,d8	10	8	13	c-Any clinical speciality e.g. neurology
a8,b1,b4,b5,b7,c1,c3,d1,d2,d3,d 4,d6, d7,d8	2	1	2	2- Biostatistic & Computer and Research Methodology

2<sup>nd</sup> part . 1 compulsory course.

Programme ILOs Covered (By No.)	No. of hours/week		24	physiology
	Lab.	Lect.		
a1,a2,a3,a4,a5/a6,a7,b1,b2,b3,b4,b5,b6, b7,b8,c1,c2,c3,c4,c5,c6	3.6	3		

7. **Program Admission Requirements**

**I- General Requirements.**

1. Candidate should have either:
  - i. MBBch degree from any Egyptian Faculty of Medicine or
  - ii. Equivalent Degree from Medical Schools abroad approved by the ministry of high Education.
2. Candidate should pass the house office training year.
3. Those who are not university hospital residents should pass training for at least 12 months in one of the known hospitals.
4. Follow postgraduate bylaw Regulatory rules of Sohag Faculty of Medicine approved by the ministerial decree no. (44), dated 6/1/2010.

**II- Specific Requirements.**

1. Candidates graduated from Egyptian Universities should have at least "Good Rank" in their final year/ cumulative years examination, and grade "Good Rank" in Physiology course too.
2. Candidate should know how to speak & write English well
3. Candidate should have computer skills

4. **Regulations for Progression and Program Completion**

Duration of program is 50 credit hours ( $\geq 4$  semesters  $\geq 3$  years), starting from registration till 2<sup>nd</sup> part exam; divided to:

**First Part: (15 Credit hours  $\geq 6$  months  $\geq 1$  semester):**

- 1 Program-related basic & clinical sciences & research Methodology & Biostatistics and computer.
- 2 At least six months after registration should pass before the student can ask for examination in the 1<sup>st</sup> part.
- 3 Two sets of exams: 1st in October — 2nd in April.
- 4 At least 50% of the written exam is needed to pass in each course.
- 5 For the student to pass the first part exam, a score of at least 60% (Level D) in each course is needed.
- 6 Those who fail in one course need to re-exam it only for the next time only, and if re-fail, should register for the course from the start.

**Thesis/Essay(6 Credit hours  $\geq 6$  months=1 semester):**

- 1 Completion of the 1<sup>st</sup> part credit hours and passing the exams are pre requisites for documentation of the **Thesis/Essay** subject.
  - Should be completed, defended and accepted after passing the 1<sup>st</sup> part

examination, and at least one month before allowing to enter 2<sup>nd</sup> part final examination.

- Accepting the thesis is enough to pass this part.

**Second Part: (24 Credit hours ≥18 months= 3 semesters):**

- 1 Program related specialized sciences of Medical Physiology courses.
- 2 Completion of the 1<sup>st</sup> part credit hours and passing the exams are pre requisites for documentation of the 2<sup>nd</sup> part courses.
- 3 After passing at least:
  - Practical training: 36 months training in the department of Physiology.
- 4 The students should pass the 1<sup>st</sup> part before asking for examination in the 2<sup>nd</sup> part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book (5 Credit hours; with obtaining ≥75% of its mark ) is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; the credit hours of the logbook are calculated as following:
  - Each Cr. Hr.= 60 working Hrs.
  - Logbook= 5 Cr. Hr. X 60 working Hrs = 300 Working Hrs.
  - Collection of working Hrs. is as following:

Hrs	Activity	
6	اجتماع علمي موسع	Grand rounds
12/ day	دورات تدريبية	Training courses
12/day 18/day	حضور مؤتمرات علمية داخلي خارجية	Conference attendance
6	حضور مناقشات رسائل	Thesis discussion
12/day	حضور ورش عمل	Workshops
6	ندوة الدوريات الحديثة	Journal club
6	لقاء علمي موسع	Seminars
6	ندوة تحليل المخاطر المرضية أو الوفاة	Morbidity and Mortality conference
6	برنامج التعليم الذاتي	Self education program

- 2 Two sets of exams: 1st in October - 2nd in April.
- 3 At least 50% of the written exam is needed to pass in each course.
- 4 For the student to pass the 2<sup>nd</sup> part exam, a score of at least 60% (Level D) in each course is needed.

**9. Methods of student assessments:**

Method of assessment	weight	The assessed ILOs
1-Activities		- General transferable skills, intellectual skills



2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	50 %	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills
3-OSCE/ OSPE		-Practical skills, intellectual skills, general transferable skills
4-Structured Oral Exams		- Knowledge, Intellectual skills, General transferable skills

**Assessment schedule:**

**Part I:**

- Written Exam (3 hours): for one of the branches of specialization optional + Structured oral Exam + OSPE.
- Biostatistics & Computer and Research Methodology: Written Exam (2 hours) + Structured oral Exam+ OSPE

**Part II:**

- Two Written Exams (3 hours for each): for Physiology + structured oral Exam + OSPE.

**10. Evaluation of program**

Sample	Tool	Evaluator
6	Questionnaire	1- Senior students
2	Questionnaire	2- Alumni
30	Questionnaire	3- Stakeholders ( Employers)
1	Report	4-External Evaluator(s) (External Examiner(s))

## COURSE SPECIFICATION OF MEDICAL BIOCHEMISTRY FOR MASTER DEGREE OF MEDICAL PHYSIOLOGY

**Sohag University**

**Faculty of Medicine**

1. Program on which the course is given ;master
2. Major or minor element of program: Minor.
3. Department offering the course: Medical Biochemistry
4. Department offering the program: Medical Physiology
5. Academic year /Level:1<sup>st</sup> Part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

### **A Basic Information**

**Title:** Course specification of Medical Biochemistry in master degree of Medical Physiology

**Code:** BIO 0517-200

**Total Hours:**

Credit	Total	Tutorial	Practical	Lectures
<b>13</b>	<b>270</b>	-----	<b>150</b>	<b>120</b>

### **B Professional Information**

#### **1. Overall Aims of Course**

The aim of this **Course** is to provide the postgraduate with medical knowledge and skills essential for the practice of physiology and necessary for further training and practice in field of physiology.

1-to gain scientific knowledge essential for practice of medical physiology according to the international standards

2-Skills necessary for applying scientific methods in field of medical physiology.

3-Maintainence of learning ability necessary for continuous medical application

#### **2. Intended Learning Outcomes of Courses (ILOs)**

##### **a) Knowledge and understanding:**

By the end of the course, the graduate should be able to:

1. Define chemistry of the cell and cell membrane
2. Identify the chemistry of important structures e.g. hemoglobin
3. Identify the body metabolism on biochemical bases
4. Mention chemical changes during exercise
5. Mention chemical changes during pregnancy and lactation
6. Explain certain diseases on biochemical base

##### **b) Intellectual Skills**

By the end of the course, the graduate should be able to:

1. Identify The correlation between chemical reactions in the body and

physiological phenomena

2. Analyze deviation from normal Physiology on biochemical bases

**c) Professional and Practical Skills:**

By the end of the course, the graduate should be able to:

1. Collect samples of different types
2. Prepare different types of solutions e.g. isotonic solution
3. Estimate levels of certain specific chemicals in body fluids

**d) General and Transferable Skills:**

By the end of the course, the graduate should be able to:

1. Communicate effectively by different types
2. Use of information technology to serve the development of professional practice
3. Assess himself and identify personal learning needs
4. Use different sources to obtain information
5. Develop rules and indicators for assessing professional Contexts
6. Work in a team, and team's leadership in various.
7. Manage time efficiently.
8. Learn himself efficiently

<b>Tutorial/ Practical</b>	<b>Lecture</b>	<b>No. of hours total</b>	<b>Topic</b>
10	10	20	Biochemistry of the cell and cell membrane
10	10	20	Biochemistry of extra and intra cellular fluids
13	10	23	Metabolism of carbohydrates
13	10	23	Metabolism of protein
13	10	23	Metabolism of fat
13	10	23	Metabolism of hormones
10	10	20	Metabolism of vitamins
10	10	20	Metabolism of enzymes
10	10	20	Metabolism of hemoglobin
10	10	20	Metabolic diseases
10	5	15	Chemistry of enzymes
10	5	15	PH and acid base balance
10	5	15	-Sampling
8	5	13	Preparation of hypotonic isotonic, hypertonic and Ringers solutions
150	120	270	Total
5	8	13	Credit

**3. Contents**

**4. Teaching and Learning Methods**

- 4.1- Lectures
- 4.2- Practical sessions
- 4.3-short essay
- 4.4-research assignments
- 4.5-Attending and

5. **Student participating in scientific conferences, workshops and thesis** discussion to acquire general transferable skill

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4-OSPE	-Practical skills, intellectual skills
5.5 assignment	-General transferable skills, intellectual skills

**Assessment Schedule**

Assessment of the candidate is at the end of the course ( 1<sup>st</sup> part exam)

Assessment 1      Final written exam (1 paper)                      week 24

Assessment 2      Final Structured Oral Exam                              week 24

Assessment 3      Final OSPE    week 24

**Weighting of Assessments**

Final-term written examination                                      50%

Structured Oral Exam.    30%

OSPE    20%

Total    100%

Formative only assessments: essay, simple research, Attendance and absenteeism

6. **List of References**

**6.1- Essential Books (Text Books)**

1. Text book of Biochemistry For Medical students 8th edition by DM Vasudevan 2016

2. Harper's illustrated Biochemistry 31 edition by victor Rodwell et al 2018

**6.2- Recommended Books**

1. Lectures notes on clinical Biochemistry, Whitby et al 1993

2. Lippincott's illustrated reviews Biochemistry, Champe, PC, Harvey, RA, 2007

**6.3- Periodicals, Web Sites, ... etc**

<http://www.ncbi.nlm.gov/>

<http://www.vlib.org/>

[www.genome.ad.jp/kegg/regulation.](http://www.genome.ad.jp/kegg/regulation)

Findarticle.com

Freemedicaljournals.com

**7. Facilities Required for Teaching and Learning:**

1. Adequate infrastructure includes teaching places (teaching class teaching halls, teaching laboratory) comfortable desks, good source of aeration, bathrooms ,good illumination and safety and security tools.
2. Teaching tools: includes screens, computers cd( r/w) data shows ,projectors, flip charts, white boards ,video players ,digital video camera, copier, colure and laser printers
3. Computer programs: for designing and evaluating MCQS.

**Course Coordinator:** Dr. Amira Morad Foad Hamdy

**Head of Department:** Dr Nagwa said Ahmed

**Date:** 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, Revised:1/12/2018

# COURSE SPECIFICATION OF CLINICAL PHARMACOLOGY IN MASTER DEGREE OF MEDICAL PHYSIOLOGY

Sohag University

Faculty of Medicine

1. Program on which the course is given ;master of medical Physiology
2. Major or minor element of program: Minor.
3. Department offering the course: Clinical Pharmacology Department.
4. Department offering the program: Medical Physiology Department
5. Academic year /Level: 1st Part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

## A. Basic Information

**Title:** Course specification of Clinical Pharmacology of in master degree of medical physiology

**Code:** PHA0517-200

**Total Hours:**

Credit	Total	Tutorial	Practical	Lectures
13	270	-----	150	120

## B. Professional Information

### 1. Overall Aims of Course

The aim of this **Course** is to provide the postgraduate with medical knowledge and skills essential for the practice of Medical physiology and necessary for further training and practice in field of Medical physiology.

1-to gain Scientific knowledge essential for practice of medical physiology according to the international standards

2-Skills necessary for applying scientific methods in field of medical physiology.

3-Maintainence of learning ability necessary for continuous medical application

### 2. Intended Learning Outcomes of Courses (ILOs)

#### a) **Knowledge and understanding:**

By the end of the course, the graduate should be able:

1. Describe the pharmacological effects of certain drugs on cell physiology
2. Mention pharmacological effects of certain drugs on physiology of body systems
3. Effects of age, sex and body surface area on pharmacokinetics of drugs
4. Mention pharmacology of drugs with pregnancy and lactation
5. Identify hormonal therapy during menopause
6. Drug abuse and its effects on physiology of different body systems

**b) Intellectual Skills**

By the end of the course, the graduate should be able:

1. Correlate between pharmacological effects of drugs and changes in physiology associated with

**c) Professional and Practical Skills**

By the end of the course, the graduate should be able:

1. Assess pharmacological effects of drugs on lab animal .physiology
2. Use pharmacological instruments tools or devices to estimate drug
3. Bioavailability in health and diseases

**d) General and Transferable Skills:**

By the end of the course, the graduate should be able to:

1. Communicate effectively by different types.
2. Use of information technology to serve the development of Professional practice
3. Assess himself and identify personal learning needs
4. Use different sources to obtain information
5. Develop rules and indicators for assessing professional
6. Work in a team, and team's leadership in various contexts
7. Manage time efficiently.
8. Learn himself efficiently

**9. Contents**

Tutorial/ Practical	Lecture	No. of hours	Topic
10	8	18	pharmacokinetics and pharmacodynamics of drugs
10	8	15	Drugs act on CNS
10	8	18	Drugs act on ANS
10	8	18	Drugs act on endocrine system
10	8	18	Drugs act on cardiovascular system
10	8	18	Drugs act on urinary system
10	8	18	Drugs act on digestive system
10	8	18	Drugs act on blood
10	8	18	Drugs act on metabolism
10	8	18	Drugs act on respiratory system
10	8	18	Drugs act on eye
10	8	18	Teratogenic drugs
10	8	18	Hormonal therapy
10	8	18	Teratogenic drugs
<b>10</b>	<b>8</b>	<b>18</b>	<b>Drug abuse</b>
<b>150</b>	<b>120</b>	<b>270</b>	<b>Total</b>
<b>5</b>	<b>8</b>	<b>13</b>	<b>Credit</b>

**4. Teaching and Learning Methods**

- 4.1- Lectures
- 4.2- Practical sessions
- 4.3-short essay
- 4.4-research assignments

4-5-Attending and 5-Student participating in scientific conferences, workshops and thesis discussion to acquire general transferable skill

## **5. Student Assessment Methods**

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4-OSPE	-Practical skills, intellectual skills
5.5 assignment	-General transferable skills, intellectual skills

### **Assessment Schedule**

Assessment of the candidate is at the end of the course( 1<sup>st</sup> part exam)

Assessment 1	Final written exam (1 paper)	week 24
Assessment 2	Final oral exam	week 24
Assessment 3	Final OSPE	week 24

### **Weighting of Assessments**

Final-term written examination	50	%
Oral Examination.	30	%
OSPE	20	%
Total	100	%

Formative only assessments: essay, simple research , attendance and absenteeism

## **6. List of References**

### **6.1- Essential Books (Text Books)**

Goodman and Gilman (2016) Manual of Clinical Pharmacology and therapeutics. Mc Graw Hill, Katzung (2018),

### **6.2- Recommended Books**

Clinical Pharmacology book, Assiut university.

### **6.3- Periodicals, Web Sites, etc**

Clinical Pharmacology review

Exp Clinical Pharmacology and therapeutic

## **7. Facilities Required for Teaching and Learning:**



- 1- Adequate infrastructure includes teaching places(teaching class ,teaching halls ,teaching laboratory )comfortable desks ,good source of aeration ,bathrooms ,good illumination and safety and security tools.
- 2- Teaching tools: includes screens, computers cd( r/w) data shows ,projectors, flip charts, white boards ,video players ,digital video camera, copier, colure and laser printers
- 3- Computer programs: for designing and evaluating MCQS.

**Course Coordinator: Dr. Hala Ibrahim Madkor**

**Head of Department :Dr. Sanaa Abd-Elaal**

**Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018**

# COURSE SPECIFICATION OF NEUROLOGY IN MASTER DEGREE OF MEDICAL PHYSIOLOGY

Sohag University

Faculty of Medicine

1. Program on which the course is given ;master
2. Major or minor element of program: Minor.
3. Department offering the course: Neurology and psychiatry department.
4. Department offering the program: Medical Physiology Department
5. Academic year /Level: 1st Part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

## A. Basic Information

**Title:** Course specification of neurology in master degree of medical physiology

**Code:** NEU0517-200

**Total Hours:**

Credit	Total	clinical	practical	Lectures
13	270	150	---	120

## B. Professional Information

### 1. Overall Aims of Course

The aim of this **Course** is to provide the postgraduate with medical knowledge and skills essential for the practice of medical physiology and necessary for further training and practice in field of medical physiology.

- 1-to gain scientific knowledge essential for practice of medical physiology according to the international standards
- 2-Skills necessary for applying scientific methods in field of medical physiology.
- 3-Maintainence of learning ability necessary for continuous medical application

### 2. Intended Learning Outcomes of Courses (ILOs)

#### a) **Knowledge and understanding:**

By the end of the courses the graduate should be able to:

1. Describe and explain some diseases in neurology on physiological base and trace the physiology of other systems in association with those diseases

#### b) **Intellectual Skills**

By the end of the courses the graduate should be able to

1. Identify the provisional diagnosis after history taking

#### c) **Professional and Practical Skills**

By the end of the courses the graduate should be able:

1. Use clinical skills, instruments and devices in assessment of body functions in health and disease e.g. EMG and EEG

#### d) **General and Transferable Skills:**

By the end of the courses the graduate should be able to:

1. Communicate effectively by different types.
2. Use of information technology to serve the development of professional practice
3. Use different sources to obtain information
4. Assess himself and identify personal learning needs
5. Develop rules and indicators for assessing
6. Work in a team, and team's leadership in various professional contexts.
7. Manage time efficiently.
8. Learn himself efficiently

#### 9. **Contents**

<b>Tutorial/ Practical</b>	<b>Lecture</b>	<b>No. of hours total</b>	<b>Topic</b>
20	12	32	Neurological examination
16	12	28	Cranial nerves and their lesions
13	12	25	Upper and lower motor neuron lesions
13	12	25	Muscle diseases and myopathies
13	12	25	Peripheral neuropathy
13	12	25	EPILEPSY
13	12	25	Cerebrovascular lesions
13	12	25	Cerebellum and neocerebellar syndrome
13	12	25	Basal ganglia and parkinsonism and chorea
13	6	19	EEG
10	6	16	EMG
<b>150</b>	<b>120</b>	<b>270</b>	<b>Total</b>

#### 4. **Teaching and Learning Methods**

- 4.1- Lectures
- 4.2- clinical sessions
- 4.3-short essay
- 4.4-research assignments
- 4-5-Attending and 5-Student participating in scientific conferences, workshops and thesis discussion to acquire general transferable skill

#### 5. **Student Assessment Methods**

<b>Method of assessment</b>	<b>The assessed ILOs</b>
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.5-OSCE	-Practical skills, intellectual skills

	General transferable skills
5.5 assignment	-General transferable skills, intellectual skills

### Assessment Schedule

Assessment of the candidate is at the end of the course( 1<sup>st</sup> part exam)

Assessment 1	Final written exam (1 paper)	week 24
Assessment 2	Final oral exam	week 24
Assessment 3	Final OSCE	week 24

### Weighting of Assessments

Final-term written examination	50 %
Oral Examination.	30 %
OSCE	20 %
Total	100 %

Formative only assessments: essay, simple research, Attendance and absenteeism

### 6. List of References

#### 6.1- Essential Books (Text Books)

Fundamentals of Neurology, Marco Mumenthaler, Heinrich Mattle, Thieme, 2006.

#### 6.2- Recommended Books

1-Merritt's neurology, Lewis P. Rowland, Timothy Asbury Pedley, 12th edition, Lippincott Williams & Wilkins, 2010.

#### 6-3-Web sites:

<http://www.ion.ucl.ac.uk>

<http://www.peekstats.com/www.neurozentrum.net>

### 7. Facilities Required for Teaching and Learning:

- 1- Adequate infrastructure includes teaching places(teaching class ,teaching halls ,teaching laboratory )comfortable desks ,good source of aeration ,bathrooms ,good illumination and safety and security tools.
- 2- Teaching tools: includes screens, computers CD( r/w) data shows ,projectors, flip charts, white boards ,video players ,digital video camera, copier, colure and laser printers
- 3- Computer programs: for designing and evaluating MCQS.

**Course Coordinator:** Dr. Mohamed Abd El Monem

**Head of Department:** Prof. Garib Fawi

**Date:** 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

## Course Specification of Biostatistics & Computer and Research Methodology in Master degree in Physiology

**Sohag University**

**Faculty of Medicine**

1. Program Title: Master degree in Physiology.
2. Minor element of program
3. Department offering the program: Medical Physiology
4. Department offering the course: Community Medicine and public Health department.
5. Academic Year/level: 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

### A. Basic Information

**Title:** Course Specification of Biostatistics & Computer and Research Methodology in Master degree in Physiology.

**Code:** COM 0517-200

**Total hours**

Credit hours	Total hour	Tutorial	Practical	Lectures
2	45	-	30	15

### B. Professional Information

#### 1. Overall Aims of the Course

- The aim of this program is to provide the postgraduate student with the advanced medical knowledge and skills essential for the mystery of the practice of biostatistics specialty and necessary to provide further training and practice in the field of Obstetrics & Gynecology through providing recent scientific knowledge essential for the mystery of practice of biostatistics according to the international standards
- To use precisely computer programs
- To provide the postgraduate student with the advanced medical knowledge and skills essential for the mystery of the practice of Research methodology specialty and necessary to provide further training and practice in the field of Obstetrics & Gynecology

#### 2. Intended Learning Outcomes of Course (ILOs)

##### a) **Knowledge and understanding:**

By the end of the course, the OBS / GYN post-graduate is expected to be able to:

1. Describe the principles and fundamentals of quality in professional practice in the field of Obstetrics & Gynecology.
2. List the basics and ethics of scientific research.

##### b) **Intellectual Skills**

By the end of the course, the student is expected to be able to:

1. Conduct a research study and / or writing a scientific study on a research problem.
2. Analyze researches and issues related to the physiology.

**c) Professional and Practical Skills:**

By the end of the course, the student is expected to be able to:

1. Assess methods and tools existing in the area of physiology.

**d) General and Transferable Skills:**

By the end of the course, the student is expected to be able to:

1. Use information technology to serve the development of professional practice.
2. Use different sources to obtain information and knowledge.

**3. Contents**

<b>Tutorial/ Practical</b>	<b>Lecture</b>	<b>No of Hours</b>	<b>Topic</b>
	2	2	collection, analysis and interpretation of data
3	1.5	4.5	Tests of significance: Proportion test
3	1	4	Chi-square test
3	1	4	Student T test
3	1	4	Paired T test
3	1	4	- parametric and non parametric tests
3	2	5	Epidemiological studies (case control, cohort and cross sectional )
3	1	4	Bias and errors
3	1	4	Setting a hypothesis
2	1	3	Screening
2	1.5	3.5	-0 Evidence – based Medicine:
2	1	3	Formulation of papers
<b>30</b>	<b>15</b>	<b>45</b>	<b>Total hours</b>
<b>1</b>	<b>1</b>	<b>2</b>	<b>Total Credit hours</b>

**4. Teaching and Learning Methods**

- 4.1- Lectures.
- 4.2- Practical sessions.
- 4.3- Computer search assignments

**5. Student Assessment Methods**

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40%	- Knowledge

-structured questions: 25%	- Knowledge
-MCQs: 20%	- Knowledge, intellectual skills
-Commentary, Problem solving: 15%	- Intellectual skills, General transferable skills
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4 Computer search assignment	-General transferable skills, intellectual skills

### Assessment Schedule

- Assessment 1.....Final written exam..... week: 24  
 Assessment 2.....Final Structured Oral Exam .....week: 24  
 Assessment 3..... Attendance and absenteeism throughout the course  
 Assessment 4 ..... Computer search assignment performance throughout the course

### Weighting of Assessments

Final written examination	50	%
Structured Oral Exam	50	%
Total	100	%

- 1 Any formative only assessments: Attendance and absenteeism throughout the course
- 2 Computer search assignment performance throughout the course

### 6. List of References

#### 6.1- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, 2008.,Robert Wallace, publisher McGraw-Hill Medical; 15 edition.

#### 6.2- Recommended Books

- 1- Dimensions of Community Based projects in Health Care, 2018. Arxer, Steven L., Murphy, John W.; 1st edition.
- 2- Parks Text Book of Preventive & Social Medicine. 2017., K. Park. BanarsidasBhanot Publishers; 23 edition.
- 3- Clinical Epidemiology: The Essentials, 2013, Robert F., Suzanne W. Fletcher, Grant S., publisher Lippincott Williams & Wilkins; 5 edition.

#### 6.3- Periodicals, Web Sites, ...etc

- 1-American Journal of Epidemiology
- 2-British Journal of Epidemiology and Community Health
- 3- WWW. CDC and WHO sites

### 7. Facilities Required for teaching and learning.

- 1- Adequate infrastructure: including teaching places ( teaching class, teaching halls, teaching laboratory), Comfortable desks, good source of aeration, bathrooms, good illumination, safety & Security tools.
- 2- Teaching Tools: including screens, Computer including cd(rw), data shows, Projectors, flip charts, white board, video player, digital video camera, Scanner,

copier, colour and laser printers.

**3- Computer Program:** for designing and evaluating MCQs

**Course Coordinator:** Dr/Rasha Abd El-Hamed

**Head of Department:** Prof/ Ahmed Fathy Hammed

**Date:** 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018



# COURSE SPECIFICATION OF MEDICAL PHYSIOLOGY IN MASTER DEGREE OF MEDICAL PHYSIOLOGY

Sohag Univeristy

Faculty of Medicine

1. Program on which the course is given; master degree of medical physiology
2. Major or minor element of program: Major
3. Department offering the program: medical physiology
4. Departments offering the courses. medical physiology
5. Academic year /Level:2<sup>nd</sup> Part.
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

## A. Basic Information

**Title: Course specification of physiology in MD degree of medical physiology**

**Code: PHY0517-200**

**Total Hours:**

Credit	Total hour	Tutorial	Practical	Lectures
24	510	-	300	210

## B. Professional Information

### 1. Overall Aims of Course

The aim of this Course is to provide the postgraduate with medical knowledge and skills essential for the practice of medical physiology and necessary for further training and practice in field of medical physiology.

1-to gain scientific knowledge essential for practice of medical physiology according to the international standards

2-Skills necessary for applying scientific methods in field of medical physiology.

3-Maintainence of learning ability necessary for continuous medical application

### 2. Intended Learning Outcomes of Courses (ILOs)

#### a) **Knowledge and understanding:**

**By the end of the course, the student is expected to be able to:**

1. Mention , fundamentals ,theories and basic knowledge in the field of cell physiology
2. List the fundamentals and basic knowledge in the field of medical physiology of body systems and their control in case of health and disease
3. Mention Scientific developments in the field of medical physiology.
4. Mention The mutual influence between professional practice and its impacts on the environment.
5. Mention Ethical and legal principles of professional practice in the field of medical physiology
6. Mention The principles and fundamentals of quality in professional practice in

the field of medical physiology

7. Mention The basics and ethics of scientific research.

**b) Intellectual Skills**

By the end of the study of MASTER program in medical physiology the graduate should be able to:

1. Interpret ate physiological data information in the field of physiology and use it for evaluation of function of different body systems .
2. Select from different diagnostic tools the one that can reach final solving problems in the field of medical physiology.
3. Link between knowledge for Professional problems' solving.
4. Conduct a research study and / or writing a scientific study on a research problem.
5. Assess risks in professional practices in the field of medical physiology
6. Plan for the development of performance in the field of medical physiology
7. Identify physiological problem and find solves.
8. Analyze research and issues related to medical physiology

**c) Professional and Practical Skills:**

By the end of the study of master program in medical physiology Graduate should be able to:

1. Master of the basic and modern professional skills in dissection of lab animals and isolation of certain organs.
2. Estimate vital variables in lab animals
3. Estimate certain physiological values in human.
4. Perform and use instruments and devices in evaluation of body system physiology e.g. ECG and respirometers.
5. Write and evaluate of physiological reports.
6. Assess methods and tools existing in the area of physiology

**d) General and transferable skills**

By the end of the study of master program in medical physiology Graduate should be able to:

1. Communicate effectively by different types.
2. Use of information technology to serve the development of professional practice.
3. Assess himself and identify personal learning needs
4. Use different sources to obtain information.
5. Develop rules and indicators for assessing
6. Work in a team, and lead teams in various professional contexts.
7. Manage time efficiently.
8. Learn himself efficiently

### 3. Content

Practical/ Tutorial	Lecturer	Total No. of hours	Topics
10	11	21	1-Cell physiology?
3	3	7	1 Functional system of the cell
3	4	7	2 Transport of substances through cell membrane
4	4	7	3 membrane potential
30	21	51	2-Muscle and Nerve
6	4	10	1 Physiologic anatomy of skeletal muscle
6	5	11	2 Mechanism of Muscle contraction
6	4	10	3 Excitation contraction coupling
6	4	10	4 Contraction and Excitation of smooth muscle
6	4	10	5 Drugs affecting skeletal muscle & smooth muscle
40	31	71	3-Circulation
4	3	7	1 Physiologic-anatomy of cardiac muscle
4	3	7	2 Cardiac cycle
5	3	8	3 Properties of cardiac muscle
4	3	7	4 Normal E.C.G.
4	3	7	5 Arrhythmia and E.E.G. changes
4	3	7	6 Micro-circulation & lymphatic system
4	4	7	7 Cardiac output & venous return
4	3	7	8 Cardiac failure
4	3	7	9 Heart sounds
4	3	7	10 Circulatory shocks
30	21	51	4-Kidney
5	3	8	1 Body fluids
5	5	10	2 Urine formation mechanism
5	3	8	3 Osmolarity of Body Fluids
5	4	9	4 Kidney & control of body fluids
5	3	8	5 Kidney & electrolytes
5	3	8	6 Role of the kidney in acid base balance

30 5 3 7  5 5 5	21 3 5 3  3 3 4	51 8 8 10  8 8 9	5-Blood 1 R.B.Cs Physiology 2 Blood Groups 3 Resistance to infection & W.B.Cs 4 Immunity 5 Allergy mechanism 6 Hemostasis & platelets
30 5 3 7 5  5 5	21 3 5 3 4  3 3	51 8 8 10 9  8 8	6-Respiration 7 Pulmonary Ventilation 8 Pulmonary Circulation 9 Physics of gas exchange 10 Transport of gases through blood 11 Regulation of Respiration 12 Respiratory diseases in short
30 5  3 6 5 5  6	21 3  5 3 3 3  4	51 8  8 9 8 8  10	7-Gastro-intestinal tract 13 General principles of G.I.T. function 14 Motor function of G.I.T. 15 Secretory function of G.I.T 16 Digestion & absorption 17 Physiology of G.I.T disorders 18 Liver:- Physiologic-anatomy of the liver Metabolic function of the liver Miscellaneous metabolic function of the liver Jaundice & its types
20 5 7 4  4	11 2 3 3  3	31 7 10 7  7	8- Metabolism 19 Obesity & starvation 20 Energetics & metabolic rate 21 Body temperature & its regulation 22 Mechanism of fever

30	21	51	9-Endocrinology
5	3	8	23 Pituitary hormones & control of secretion
3	2	5	24 Thyroid hormones
3	2	5	25 Insulin & glucagon
3	2	5	26 Diabetes mellitus
3	2	5	27 Para-thyroid hormones & calcium and phosphate metabolism
2	3	5	28 Reproductive & Hormonal functions in male
5	3	8	29 Female Physiology before pregnancy & female hormones
3	2	5	30 Physiology of pregnancy & lactation
3	2	5	31 Placental formation

50	31	81	10- C.N.S.
4	1	5	1 Physiologic-anatomy of C.N.S.
7	2	9	2 <u>Somatic sensation</u>
9	5	14	3 Special sense
6	2	8	7- Eye :-
			4 Optics of vision
			5 Neural function of the retina
			6 Central neuro-physiology of vision
			7 Mechanism of colour vision & colour blindness
1	2	3	7- Ear :-
			8 Physics of sound Transmission
			9 Physiologic-anatomy of the ear
			10 Transmission of sounds through the ear
			32 Sensation of the sound in C.N.S.
			33 Deafness & its types
			7- Taste & smell:-
			34 Taste buds & their functions
			35 Mechanism of taste buds stimulation
2	1	3	36 Transmission of taste to the C.N.S.
			37 Olfactory cells & their stimulation
			38 Transmission of smells to the C.N.S.
			39 <u>Motor Function of the C.N.S.</u>
			40 Motor Function of the spinal cord
			41 Cortical & and brain stem control
5	3	8	42 Cerebellum & basal ganglia & motor function
			43 Cerebral cortex –intellectual function
6	2	8	44 Physiology of limbic system
3	2	5	45 Brain activity & sleep
1	4	5	46 Epilepsy
6	2	8	47 A.N.S Physiology
7	3	10	48 Cerebral blood flow Cerebro-spinal fluid & brain metabolism
7	2	8	
300	210	510	49 Total

10	12	24	Credit
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#### 4. Teaching and Learning Methods

- 4.1- Lectures
- 4.2- Practical sessions
- 4.3-short essay
- 4.4-research assignments
- 4-5-Attending and 5-Student participating in scientific conferences, workshops and thesis discussion to acquire general transferable skill

#### 5. Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2- Log book	- General transferable skills
5.3-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.4-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.5-OSPE	-Practical skills, intellectual skills
5.6 Computer search assignment	-General transferable skills, intellectual skills

#### 5.2-Assessment Schedule

Assessment of the candidate is at the end of the course( 2<sup>nd</sup> part exam)

Assessment 1	Final written exam (2 papers)	week 96
Assessment 2	Final Structured Oral Exam	week 96
Assessment 3	Final OSPE	week96

#### **Weighting of Assessments**

Final-term written examination	50%
Structured Oral Exam.	30%
OSPE	20%
Total	100 %

Formative only assessments: essay, simple research, Attendance and absenteeism, Log book

#### 6. List of References

##### 6.1- Essential Books (Text Books)

Guyton and Hall Textbook of Medical Physiology, John E. Hall,13th edition, Elsevier Health Sciences, 2015.

##### 6.2- Recommended Books

Ganong's Review of Medical Physiology, 25th Edition, McGraw Hill Professional, 2015.

##### 6.3- Periodicals, Web Sites, etc

- 1 www.medicalstudent.com.
- 2 www.mhhe.com
- 3 American journal of physiology.

- 4 Journal of applied physiology.
- 5 Journal of clinical endocrinology and metabolism.
- 6 Physiological Review.
- 7 European Journal of Physiology.

**7. Facilities Required for Teaching and Learning:**

- 1- Adequate infrastructure includes teaching places(teaching class ,teaching halls ,teaching laboratory )comfortable desks ,good source of aeration ,bathrooms ,good illumination and safety and security tools.
- 2- Teaching tools: includes screens, computers cd( r/w) data shows ,projectors, flip charts, white boards ,video players ,digital video camera, copier, colure and laser printers
- 3- Computer programs: for designing and evaluating MCQS.

**Course Coordinator:** Dr. Hoda Mostafa

**Head of Department:** Dr. Hoda Mostafa

**Date:** 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018