# COURSE SPECIFICATION

## Faculty of Medicine– Mansoura University

## (A) Administrative information

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| (1) Programme offering the course: | Master Science Degree of Industrial Medicine and Occupational Health |
| (2) Department offering the programme: | Public health and community medicine department |
| (3) Department responsible for teaching the course: | Public health and community medicine department |
| (4) Part of the programme: | First Part |
| (5) Date of approval by the Department`s council | |
| (6) Date of last approval of programme specification by Faculty council | **9/8/2016** |
| (7) Course title: | Environmental Physiology & Environmental Health |
| (8) Course code: | PHPM 518 PEH |
| (9) Credit hours | 2 Cr. hours |
| (10) Total teaching hours: | 30 hrs lectures |

## (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 be able to recognize the effects of ambient environment on health of public and participate in finding solutions for environmental problems.

## (2) Intended Learning Outcomes (ILOs):

Intended learning outcomes (ILOs); Are four main categories: knowledge & understanding to be gained, intellectual qualities, professional/practical and transferable skills.

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

### (1) A- Knowledge and Understanding

A1: Discuss environmental physiology of Occupational physical agents.
A2: Recognize all-about exposure to Occupational physical agents and impact on health.
A3: Describe Occupational health programs for prevention and control of physical hazards.
A4: Explain relation between health and ambient environment (other than workplace).
A5: Recognize ideal quality standards for environmental elements (water, air, food).
A6: Identify methods for prevention and control of environmental hazards and disasters.
A7: Understand basics of environmental and ecological risk assessment.

### 2- Intellectual activities (I)

The Postgraduate Degree provides opportunities for candidates to achieve and demonstrate the following intellectual qualities:

### B- Intellectual skills

B1: Design Environmental Health Services Program for diverse environmental elements.
B2: Illustrate role of Occupational and Environmental Medicine Physician in Environmental Health.
B3: Criticize current Environmental Health Programs in Mansoura, and Egypt.
B4: Propose solutions and modifications for Environmental Health Problems.
B5: Categorize Occupational Physical Agents and relation to health.
B6: Propose Occupational Health Services Program for control of physical hazards at work.

### C- Professional/practical skills

C1: Recognize and manage hazards of general environment.
C2: Liaise with other professionals working in Environmental Affairs.
C3: Use sources of information on environmental hazards and control.
C4: Be able to liaise with emergency personnel in the event of an industrial incident.
C5: Carry out an environmental impact assessment of an industrial activity on health.

D- Communication & Transferable skills

D1: Learn teaching and learning skills.
D2: Design and deliver a teaching event/ or short course.
D3: Identify Intended learning outcomes of a teaching event.
D4: Teach large and small groups effectively.
D5: Select and use appropriate teaching resources.
D6: Give constructive effective feedback.
D7: Evaluate programs and events.
D8: Learn how to work as a team member and as a team leader.
D9: Develop critical thinking and peer-reviewing skills.

Course content:

| Subjects | Lectures | Practical |
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| **First Topic: Environmental physiology and physical agents:**<br>(1)Physiological Regulation of Body Temperature.<br>(2)Physiology of Hearing, Vision, Taste and Smell.<br>(3)Physiology of Respiration.<br>(4) Health Effects of Exposure to Heat (Heat Disorders) & Hypothermia.<br>(5) Heat Exposure Indices, Prevention & Control of Heat Disorders<br>(6)Health Effects of Exposure to Noise and Occupational Hearing Loss.<br>(7) Noise Control Program.<br>(8)Health Effects of Exposure to Vibration (segmental and whole body).<br>(9)Atmospheric Pressure Disorders (Dysbarism and Altitude Sickness).<br>(10) Radiation (physics and types).<br>(11) Health Effects of Exposure to Ionizing Radiation. | 16 hrs | |

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| (12)Health effects of exposure to Non-ionizing Radiation.<br>(13) Radiation Protection.<br>(14)Laser: Types & Injuries.<br>(15)Electrical Injuries.<br>(16)Problems of Lighting in Industry.<br>**Second Topic: Environmental Health**<br>(17)Introduction to Environmental Health (Definitions, Components).<br>(18)Particulate Matter (types, size, sources).<br>(19) Air Quality (physical, chemical properties of air).<br>(20)Air Pollution, Definition, Classification, Sources, and Control.<br>(21)Indoor Air Pollution and Housing Quality Standard.<br>(22)Global Environmental Problems.<br>(23) Climate Change & Ecosystem Degradation<br>(24)Water Pollution, Definitions, Sources, Health Hazards and Control.<br>(25) Water Purification and Standards of Drinking Water.<br>(26) Food-borne Hazards to Health.<br>(27)Food Safety and Quality Standards.<br>(28)Wastes, Classification, Hazards to Health, and Management.<br>(29)Principles of Environmental Health Risk Assessment.<br>(30) Other Subjects.<br>Self-learning activity. (1)Physiological Regulation of Body Temperature.<br>(2)Physiology of Hearing, Vision, Taste and Smell.<br>(3)Physiology of Respiration.<br>(4) Health Effects of Exposure to Heat (Heat Disorders) & Hypothermia.<br>(5) Heat Exposure Indices, Prevention & Control of Heat Disorders<br>(6)Health Effects of Exposure to Noise and Occupational Hearing Loss.<br>(7) Noise Control Program.<br>(8)Health Effects of Exposure to Vibration (segmental and whole body).<br>(9)Atmospheric Pressure Disorders (Dysbarism and Altitude Sickness).<br>(10) Radiation (physics and types).<br>(11) Health Effects of Exposure to Ionizing Radiation.<br>(12)Health effects of exposure to Non-ionizing Radiation.<br>(13) Radiation Protection.<br>(14)Laser: Types & Injuries.<br>(15)Electrical Injuries.<br>(16)Problems of Lighting in Industry.<br>(17)Introduction to Environmental Health (Definitions, Components).<br>(18)Particulate Matter (types, size, sources).<br>(19) Air Quality (physical, chemical properties of air).<br>(20)Air Pollution, Definition, Classification, Sources, and Control.<br>(21)Indoor Air Pollution and Housing Quality Standard.<br>(22)Global Environmental Problems.<br>(23) Climate Change & Ecosystem Degradation<br>(24)Water Pollution, Definitions, Sources, Health Hazards and Control.<br>(25) Water Purification and Standards of Drinking Water.<br>(26) Food-borne Hazards to Health. | 14 hrs | |

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| (27)Food Safety and Quality Standards.<br>(28)Wastes, Classification, Hazards to Health, and Management.<br>(29)Principles of Environmental Health Risk Assessment.<br>(30) Other Subjects.<br>Self-learning activity. | | |

## (2) Teaching methods:

4.1:… Lectures

4.2: … Seminars

4.3: … Tutorial

4.4: … Workshops

## (3) Assessment methods:

5.1 Written exam for assessment of knowledge and intellectual ILOs

5.2 Oral exam for assessment of knowledge and intellectual ILOs

5.3 Practical exam knowledge and intellectual ILOs

5.4 MCQ exam for assessment of intellectual ILOs

### Assessment schedule:

Assessment 1: MCQ……at the end of semester (15th week)

Assessment 2: Written after 6 months of the start of the job.

Assessment 3: Oral exam 6 months of the start of the job.

Assessment 4: Practical exam 6 months of the start of the job.

### Percentage of each Assessment to the total mark:

Written: 144 Marks (including 20% MCQ)

MCQ 36 Marks

Structured Oral: 60 Marks

OSCE Practical : 60 Marks

## (4) References of the course:

6.1: Handouts of lectures and handbooks authorized by the department.

6.2: Text books:

- **Environmental and Occupational Medicine** (4th ed.) by William N. Rom.
- **Textbook of Clinical Occupational and Environmental Medicine** (2nd ed.) by Cullen M and Rosenstock L.
- **Pocket Consultant of Occupational Health**, UK.

- **Text book of Public Health**, Maxcy Roseneau (Wallace, 14th ed).

6.3: Journals:… Publications of national and international Occupational and Environmental Medicine Associations: Egyptian Society of Occupational and Environmental Medicine Journal, American College of Occupational and Environmental Medicine Journal (OEM), OSHA and NIOSH publications, ILO publications.

6.4:Websites:

http://www.ilo.org/safework_bookshelf/english?d&nd=170000102&nh=0

http:// www. niosh.com + http://www.acoem.com

## (5) Facilities and resources mandatory for course completion:

Candidates and their learning are supported in a number of ways:

□ Induction course introducing study skills
□ Candidates logbook
□ Programme Specification and Handbooks
□ Extensive library and other learning resources
□ Computer laboratories with a wide range of software
□ Intranet with a wide range of learning support material
□ Ph.D Dissertation Supervisor
□ Others

Course coordinator: Prof. Emily kamel, Prof. Adel El-Weheidi, Dr. Nabil Joseph, Dr. Hala Samir

Head of the department: Prof. Mohamed Azmy Khafagy

Date:

P.S. This specification must be done for each course.