



COURSE SPECIFICATION

Elective Course Neonatology

Faculty of Medicine– Mansoura University

- **Administrative information**

(1) Programme offering the course:	MD Pediatrics (PED 600)
(2) Department offering the programme:	Pediatrics
(3) Department responsible for teaching the course:	Pediatrics
(4) Part of the programme:	2nd part – Elective Course Neonatology
(5) Date of approval by the Department's council	27/4/2016
(6) Date of last approval of programme specification by Faculty council	9-8-2016
(7) Course title:	MD Elective Course Neonatology
(8) Course code:	PED 609 ANE
(9) Total teaching hours:	45 hours

(1) Course Aims:

The broad aims of the course are as follows.

- 1- To prepare candidates at the end of the course to become leaders in the field of Neonatology as healers, teachers and researches.
- 2- To develop excellence and responsibility in neonatal care, technical competence, critical thinking, sound medical judgment and professional integrity.
- 3- To ensure that the candidate function with other members of the health care team for promotion of neonatal care.

(2) Intended Learning Outcomes (ILOs):

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

A. Knowledge and Understanding

- **A1.1.** Identify advances in the diagnosis and management of neonatal seizures.
- **A1.2.** Memorize neuroprotective therapy in infants with brain insults.
- **A1.3.** Determine abnormalities in neonatal EEG.
- **A1.4.** List indications and interpretations of Neonatal cranial US, Neonatal brain CT and MRI interpretation
- **A1.5.** Recognize the principle of Neurodevelopmental assessment
- **A1.6.** List the causes, diagnosis, prevention and management of Perinatal stroke
- **A1.7.** Identify causes, pathogenesis and management of Post hemorrhagic ventricular dilatation.
- **A2.** Recognize advances in Neonatal respiratory system
 - **A2.1.** Recall neonatal respiratory physiology.
 - **A2.2.** Recognize new modes of mechanical ventilation, High frequency ventilation, and Non-invasive ventilation.
 - **A2.3.** Memorize adjunctive therapy in neonates with respiratory failure.
 - **A2.4.** Recognize the pathogenesis role of Nitric Oxide in management of term and preterm infant with respiratory diseases.
 - **A2.5.** Identify complications of neonatal mechanical ventilation.
 - **A2.6.** Identify advances in neonatal surfactant replacement therapy.
 - **A2.7.** Identify advances in neonatal oxygen therapy.
 - **A2.8.** List values and interpretations of Pulmonary graphics.
 - **A2.9.** Recognize prevention and treatment of bronchopulmonary dysplasia
- **A3.** Discuss delivery room management of preterm infant.
- **A4.** Recognize recent advances in the neonatal nutrition.
 - **A4.1.** Identify new concepts in Total Parenteral Nutrition in the neonate.
 - **A4.2.** Discuss feeding obstacles in neonates with surgical procedures.

- **A4.3.** Recognize the value and planning for post-discharge nutrition of the preterm infant.
- **A5.** Recognize recent advances in the management of necrotizing enterocolitis.
- **A6.** Identify tools for assessment and management of neonatal pain
- **A7.** Recognize etiology and management of neonatal thrombocytopenia and neonatal thrombosis
- **A8.** Identify recent advances in neonatal transfusion.
- **A9.** Describe the importance of neonatal transport
- **A10.** Memorize common neonatal surgical problems
- **A11.** Recognize recent advances in neonatal circulatory support.
- **A11.1** Identify circulatory support of the sick newborn.
 - **A11.2.** Recognize and manage newborn with critical congenital heart disease.
 - **A11.3.** Identify recent advances in the management of persistent pulmonary hypertension of the newborn

B. Intellectual skills

- **B1.** Design plan of management of neonatal patent ductus arteriosus.
- **B2.** Compare different etiologies, pathogenesis and management of neonatal hyperglycemia
- **B3.** Design management of neonatal hyperinsulinism.
- **B4.** Develop plan of management of Retinopathy of prematurity.
- **B5.** Compare the value and tools for neonatal hearing screening
- **B6.** Apply updated guidelines of management of neonatal viral infections
- **B7.** Design different scenarios of neonatal resuscitation.
- **B8.** Interpret investigations indicating Acute Kidney injury in the neonate
- **B9.** Compare tools for fetal assessment and prenatal diagnosis.
- **B10.** Report complications and management of multiple births.
- **B11.** Formulate steps of developmentally supportive care
- **B12.** Construct plan to deal with different ethical issues in neonatal care.

(3) Course Contents

Title	Hours	ILOs
Advances in the diagnosis and management of neonatal seizures Neuroprotection Neonatal EEG interpretation	3	A1
Neonatal brain CT and MRI interpretation Neonatal cranial ultrasonography Neurodevelopmental assessment	3	A1
Perinatal stroke Post hemorrhagic ventricular dilatation Neonatal respiratory physiology	3	A1
New modes of mechanical ventilation High frequency ventilation Non-invasive ventilation	3	A2
Adjunctive therapy in neonates with respiratory failure Nitric Oxide in term and preterm infant Complications of neonatal mechanical ventilation	3	A2
Advances in neonatal surfactant replacement therapy Advances in neonatal oxygen therapy Pulmonary graphics	3	A2
Prevention and treatment of bronchopulmonary dysplasia Delivery room management of preterm infant New concepts in total parenteral nutrition in the neonate	3	A2 A3 A4
Feeding the surgical neonate Advances in the management of necrotizing enterocolitis Post-discharge nutrition of the preterm infant	3	A5
Neonatal pain assessment and management Neonatal thrombocytopenia Neonatal thrombosis	3	A6 A7 A7
Advances in neonatal transfusion Neonatal transport Neonatal surgical problems	3	A8 A9 A10
Circulatory support of the sick newborn The newborn with critical congenital heart disease Advances in the management of persistent pulmonary hypertension of the newborn	3	A11 A11 A11
Neonatal patent ductus arteriosus: to close or not to close Neonatal hyperglycemia Neonatal hyperinsulinism	3	B1 B2 B3
Retinopathy of prematurity Neonatal hearing screening Neonatal viral infections	3	B4 B5 B6
What is new in neonatal resuscitation? Acute Kidney injury in the neonate Fetal assessment and prenatal diagnosis	3	B7 B8 B9
Multiple births Developmentally supportive care Ethical issues in neonatal care	3	B10 B11 B12
Total	45	

(4) Teaching methods:

- 4.1: lectures and scientific seminar
- 4.2: Self learning

(5) Assessment methods:

- 5.1.... Written. for assessment of..... (knowledge, intellectual skills)
- 5.2.... Oral for assessment of.....(knowledge, intellectual skills)
- 5.3 MCQ continuous assessment for assessment of..... (knowledge, intellectual skills)

Assessment schedule . Semester & Final Exam.

Course	Marks		
	MCQ (semester Exam)	Essay (Final Exam)	Oral
Neonatology	12	48	30
Total	90		

(6)References of the course:

- 6.1. Illustrated text book of pediatrics by Tom Lissaeur
- 6.2. Nelson's "Essentials of Pediatrics" (available from bookshops at the faculty)
- 6.3. Nelson's Text book of Pediatrics
- 6.4. Manual of Neonatal care

(7) Facilities and resources mandatory for course completion

- **LECTURE HALLS:** Two halls for lecturers are available at Mansoura University Children's Hospital (MUCH). The hall is equipped with white board, data show, and computer.
- **CLINICAL ROUNDS HALLS:**
Six halls for clinical rounds are available at Mansoura University Children Hospital (MUCH). Computer and AV aids facilities are available with prior arrangement.

- **LIBRARY:**

The library is located on the 4th floor of the Faculty of Medicine, Mansoura University.

- **FACILITIES FOR TUTORS**

In addition to the library on 4th floor of the Faculty of Medicine, Mansoura University, there is a specialized paediatric library at MUCH (Professor Mohammad Hafez's Library). The offices of all staff at MUCH is equipped with computers and high speed internet connection.

International databases are available through the website of the university

(www.mans.edu.eg)

Course coordinator: Ass.Prof. Nehad Nasef

Head of the department: Prof. Ali Shaltout

Date: