Course SPECIFICATION

MD Pediatrics

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme Title & Code	MD Pediatrics (PED 600)
(2) Final award/degree	MD Pediatrics
(3) Department (s)	Pediatrics
(4) Coordinator	Prof. Othman Soliman
(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:	Pediatrics
(8) Course code:	PED 609
(9) Credit hours	22 Lectures 15 Clinical
(10) Total teaching hours:	**330 hours lectures** **450 hours clinical**

Professional information

(1) Course Aims:

The broad aims of the course are as follows:

1. To enable the candidate to take detailed history with emphasize on very important tips in symptomatology of common and uncommon diseases.
2. To provide the candidate with recent strategies in examination in order to pick up tiny and hidden signs.
3. To enable the candidate to select the most appropriate and recent investigations with less cost and how to interpret them in a systematic manner.
4. To provide the candidate with the recent guidelines in management of the majority of pediatric disorders.
5. To enable the candidate to Comprehended in critical illness of children and neonates in intensive care unit and how to perform life saving procedures.
6. To make the candidate Familiar with mechanical ventilation modes, strategies, monitoring and weaning protocols.
7. To produce a candidate who is Well trained to perform highly skilled interventions as CVC insertion, endoscopy and liver biopsy.
8. To produce a candidate who is Well trained to Perform counseling in the field of genetics including molecular diagnosis and delivering of breaking out news in a professional manner.
9. To produce a candidate who is Highly educated in nutrition and infection control by teach him TPN protocols and recent in infection control measures.
10. To produce a candidate who is Oriented with neonatal screening program for early diagnosis of endocrinal, metabolic and other inherited disorders.
11. Teach him evaluation of immune system including primary immunodeficiency disorders and updates in immunization program.

(2) Intended Learning Outcomes (ILOs):

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

A. Knowledge and Understanding

- A4.1 Define normal and abnormal patterns of child growth and development.
- A4.2 Define the principles of preventive pediatrics particularly immunization updates in pediatric practice.
- **A**5.1 Specify the biochemical, immunologic and nutritional merits of breast milk and management of breast feeding problems.
- A5.2 Define the pathogenesis, features and management of nutritional disorders including micronutrient deficiencies and over nutrition.
- A5.3 Delineate the principles of TPN and management of difficulties.
- A6.1 Specify the basics and different modes of neonatal ventilation including high frequency ventilation.
- A6.2 Specify the updates in management of neonatal pain, PDA, apnea, neonatal renal problems and chronic lung disease.
- A6.3 Underline the land marks of normal and abnormal ultrasound of head in newborns and other radiological investigations.
- A6.4 Specify components, indications, complications and prescription of TPN in neonates.
- A6.5 List admission and discharge criteria from NICU and follow up plan.
- **A**7.1 Underline the problem of health care associated infection and infection control measures.
- A7.2 Define the features, diagnostic clues and management of different viral infections particularly HIV and hemorrhagic fevers.
- A7.3 Specify different anaerobic infections and sexually transmitted diseases, common mycotic infections and invasive parasitic infections in children.

- A7.4 Specify infections in immunocompromized children and updated protocols of management of these patients.
- A7.5 Define the principles of antiviral, antihelminthic and antimycotic therapy in children.
- A7.6 Define the features, diagnostic clues and management of vasculitic disorders, periodic fevers and rheumatoid arthritis.
- A8.1 Define Mendelian and non-Mendelian modes of inheritance and principles of teratogenicity, mutations, microdeletion and genetics of hemoglobin.
- A8.2 Relate dysmorphic features in relation to common genetic syndromes and principles of genetic counseling.
- A8.3 Delineate methods of molecular and prenatal diagnosis of genetic disorders.
- A8.4 State the features and approaches for diagnosis and treatment of metabolic disorders particularly organic acidemias, hyperammonemias, perixosomal and mitochondrial disorders and hypoglycemic syndromes.
- A8.5 State definition, grades and genetic causes of mental retardation.
- **A**9.1 Specify the molecular aspects of pathogenesis and recent trends of management especially nephritic and nephrotic syndromes, renal tubular defects, renal failure and voiding disorders.
- A9.2 Specify the pathogenesis, features and management of SLE in children.
- A9.3 Define stepwise approach and management of a child with hematuria, proteinuria and hypertension.
- A9.4 Specify the pathogenesis, features and management of UTI and HUS in children.
- A10.1 Outline different CHD and the role of pharmacotherapy and catheter in the management.
- A10.2 Delineate the features and updated management of acquire cardiovascular disorders particularly RF/RHD, Kawasaki, collagen disorders, myocarditis, ischemic heart diseases, cardiac tumors and cardiomyopathy.
- A10.3 Specify pulmonary manifestations of heart diseases, pulmonary edema and pulmonary hypertension.

- A10.4 Underline the features and management of CHF, arrhythmia and metabolic heart diseases.
- A11.1 Name the types, pathogenesis, features and management of childhood anemias and myelodysplasia.
- A11.2 Define types, features and management of WBCs disorders including immunodeficiency.
- A11.3 Recall the process of thrombosis and thrombotic tendencies and fibrinolytic system disorders and lines of diagnosis and treatment.
- A11.4 Specify the pathogenesis, clinical criteria and management of childhood malignancies whether hematological (Leukemias and lymphomas) or solid (including bone tumors, CNS tumors, Wilm's tumor and neuroblastoma) together with early suspicion of malignancy.
- A11.5 Specify the pathogenesis, clinical criteria and management of histocytosis.
- A12.1 Specify molecular basis and neonatal screening of endocrinological problems.
- A12.2 List causes, presentation and updated management of pituitary, thyroid, parathyroid, adrenal disorders and obesity with special emphasis on emergencies and hormonal resistance syndromes.
- A12.3 Define the principles of gender determination and types of intersex.
- A12.4 Specify endocrinal metabolic disorders particularly bone metabolic defects, diabetes(type 1, type 2, MODY and neonatal DM) with new management guidelines including patient education program.
- A13.1 Define types, presentation and management of metabolic encephalopathies, developmental delay and intellectual and motor regression and updates of cerebrovascular diseases and epilepsy in children.
- A13.2 Recall diagnostic features and management of speech and language disorders, ADHD and autistic disorders in children.
- A13.3 Define types of neuropathies, muscle diseases and neurocutanous syndromes in children; diagnosis and treatment.

- A13.4 Specify common neuropsychiatric disorders in children particularly neurobehavioral disorders and autistic spectrum disorders; classification, diagnosis and management.
- A14.1 List causes, presentation, complications and updated management of acute and chronic liver diseases and its complications particularly viral hepatitis, metabolic, NASH and autoimmune liver diseases.
- A14.2 Define causes and management of neonatal cholestasis and neonatal liver failure.
- A14.3 Outline the updates in diagnosis and treatment of IBD, celiac diseses, eosinophilic GIT disorders, gastritis especially H pylori, intractable diarrhea and intestinal failure.
- A14.4 Specify feeding problems in children and nutritional care of GIT and hepatic patients.
- A 15.1 Specify the basics and different modes of mechanical ventilation including high frequency ventilation for critically ill children and MV in special clinical situations like Asthma and ARDS.
- A15.2 Specify the indications and clinical implication of non invasive ventilation.
- A15.3 Delineate mechanical ventilation graphics interpretation, extubation guidelines and principles of weaning from mechanical ventilation.
- A16.1 Define recent advances in pathogenesis and management of bronchial asthma and allergic disorders particularly insect, ocular and drug allergy.
- A16.2 Define features and detailed management of pediatric respiratory disorders especially pneumonias, collapse, airway obstruction and air leak syndrome.
- A16.3 Outline the pathophysiology of immune disorders and pulmonary manifestations of immunedeficiencies.
- A16.4 List indications of stem cell therapy in pediatrics.
- A16.5 Specify PFTs interpretation in different airway diseases.

B. Intellectual skills

- **B1.** Interpret symptoms and signs of children disease to reach proper diagnosis and

differential diagnosis.

- **B2.** Interpret investigations reports concerning the most common pediatric problems.
- **B3.** Construct appropriate management strategies for patients with common diseases, both acute and chronic, including medical and psychiatric conditions.
- **B4.** Apply personal judgment for analytical and critical problem solving.
- **B5**. Design an initial course of management for stabilization of patients with serious illnesses.
- **B6**. Classify factors that place individuals at risk for disease or injury, to determine strategies for appropriate response.
- **B7**. Utilize effective methods for rationalizing drug administration for essential drugs available in pediatric practice.
- **B8**. Formulate practice development programs.
- **B9**. Evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).
- **B10**. Perform medical research about specified medical problems.

C. Professional/practical skills

- **C1**. Take focused history according to the child's complaint.
- **C2.** Perform proper general and regional examination to reach a meaningful diagnosis.
- **C3.** Explore the updates in the diagnostic tools for each disease in a wise and localized manner.
- **C4.** Interpretation of the patients data in an ordered and competent manner to reach the diagnosis.
- **C5.** Construct a management plane for common pediatric diseases and protocols for emergency intervention.
- **C6.** Perform proper genetic counseling with emphasis on methods of prenatal diagnosis.
- **C7.** Develop skills in molecular diagnosis including DNA extraction, PCR and sequencing.

- **C8.** Set up neonatal screening program for endocrinal, metabolic and other inherited disorders.
- **C9.** Apply infection control measures including updates in immunization program.
- **C10.** Evaluation of the immune system disorders (Primary and secondary).
- **C11.** Develop skills in mechanical ventilation including modes, monitoring, weaning and the new techniques.
- **C12.** Adjust TPN (Preparation & technique) for nutritional support of newborn and children with different diseases.

D. Communication & Transferable skills

- **D1.** Adopt principles of the lifelong learning needs of the medical profession.
- **D2.** Use information and communication technology effectively in the field of medical practice.
- **D3.** Retrieve, manage, and manipulate information by all means, including electronic means.
- **D4.** Present information clearly in written, electronic and oral forms.
- **D5.** Communicate ideas and arguments effectively.
- **D6.** Analyze and use numerical data including the use of simple statistical methods.
- **D7.** Use Evidence Based Medicine in management decisions.
- **D8.** Manage time and resources effectively and set priorities.
- **D9.** Work efficiently as a leader of health care team and demonstrate skills of team leadership.
- **D10.** Solve problems related to patients, work management, and among colleagues.
- **D11.** Cope with a changing work environment.
- **D12.** Apply safety and infection control measures during practice.
- **D13.** Evaluate their work and that of others using constructive feed back.

(3) Course content

Distribution of Pediatric sub courses of MD 2nd part

First Module	Second Module	Third Module	Fourth Module
-Infection & Nutrition	-Gastroenterology	-Hematology & Oncology	-Intensive Care
-Genetics	-Nephrology	-Neurology	-Chest & Allergy
-Neonatology		-Endocrinology	-Cardiology

Each candidate will pass 5 weeks training in each specialty

First module (Infection & Nutrition):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Nosocomial infection Infection control	2				2
Infection in immunocompromized host	2				2
Anaerobic infections	2				2
Sexually transmitted diseases	2				2
Hemorrhagic fevers Periodic fevers Vasculitides	2				2
HIV	2				2
Immunization update	2				2
Rheumatoid arthritis	2				2
Diagnostic microbiology-1	2				2
Invasive helminthic infections Protozoal infections	2				2
Common mycotic infections	2				2
Antiviral therapy Antihelminthic therapy Antimycotic therapy	2				2
Over nutrition	2				2
Breast feeding and counseling	2				2
TPN Micronutrient deficiency	2				2
Total	30				30

First module (Genetic):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Teratogenicity	2				2
Non-Menclelian inheritance	2				2
Dysmorphic child	2				2
Mental Retardation	2				2
Genetic counselling	2				2
Prenatal diagnosis	2				2
Mutations	2				2
Methods of molecular diagnosis	2				2
Molecular aspects of primary immunodeficiency	2				2
Microdeletion syndromes	2				2
Organic acidemias	2				2
Hyperammonemias	2				2
Perixosomal disorders	2				2
Mitochondrial disorders	2				2
Hypoglycemic syndromes	2				2
Total	30				30

First module (Neonatology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Prevention of infections in NCU	3				3
Modes of ventilation (conventional 1)	2				2
Modes of ventilation (conventional 2)	2				2
Modes of ventilation in newborn (non conventional 1)	2				2
Modes of ventilation in newborn (non conventional 2)	2				2
Neonatal radiology	3				3
Neonatal pain management	2				2
Neonatal parenteral nutrition	3				3
Renal problems in newborn	2				2
PDA	2				2
Neonatal apnea	2				2
Follow up of neonates after discharge from NCU	2				2
Chronic lung disease	3				3
Total	30				30

Second Module (Gastroenterology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Updates in Autoimmune Hepatitis	2				2
Updates In Pediatric Chronic Viral Hepatitis	2				2
Updates In Metabolic Liver Diseases	2				2
Neonatal Cholestasis	2				2
Nutritional Care of Children with Liver dse	2				2
Portal Hypertension	2				2
NASH in Pediatric Age	2				2
Complications of Chronic Liver Diseases	2				2
IBD	2				2
Celiac disease	2				2
Intestinal Failure and Intractable Diarrhea	2				2
Medical Nutrition Therapy	2				2
Eosinophilic GI Disorders	2				2
Esophagitis, Gastritis & H. pylori infection in infancy & Childhood	2				2
Feeding problems In Infancy and Childhood	2				2
Total	30				30

Second Module (Nephrology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Nephrotic syndrome	2				2
Approach to a child with protienuria	2				2
Acute glomerulonephritis	2				2
Approach to a child with hematuria	2				2
Systemic lupus erythromatosis	2				2
Acute renal failure	3				3
Hemolytic uremic syndrome	2				2
Hypertension	2				2
Chronic renal failure	3				3
Urinary tract infection	2				2
Nocturnal enuresis and voiding disorders	3				3
Renal tubular acidosis	3				3
Bartter syndrome	2				2
Total	30				30

Third Module (Hematology & Oncology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Anemias (Regenerative)	2				2
Anemias (Non-regenerative)	2				2
Early suspicion of malignancy	2				2
Infection in hematological & oncological patients	2				2
Hematopoietic growth factors	2				2
Thrombosis and thrombophilia	2				2
Fibrinolytic system disorders	2				2
WBCs disorders (quantitative and qualitative)	2				2
Evaluation & Management of primary immunodeficiency	2				2
Myelodysplasia	2				2
Solid tumors (Bone and CNS tumors)	2				2
Solid tumors (Abdominal tumors)	2				2
Hematological malignancies (Acute leukemia)	2				2
Hematological malignancies (Lymphoma)	2				2
Histiocytosis	2				2
Total	30				30

Third Module (Neurology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Perinatal metabolic encephalopathies	2				2
Mitochondrial disorders	2				2
Peroxisomal disorders	2				2
Neuro cutaneous syndromes	2				2
Global developmental delay	2				2
Intellectual and motor regression	2				2
Spech and language disorders	2				2
Dyslexia	2				2
Attention deficit- Hyperactive disorders	2				2
Neurobehavioural disorders	2				2
Autistic spectrum disorders	2				2
Childhood epilepsy (up dates)	2				2
Cerebrovascular diseases (updates)	2				2
Peripheral neuropathies in children	2				2
Muscle disease in children	2				2
Total	30				30

Third Module (Endocrinology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
-Molecular basis of endocrinological disorders -Pituitary disorders	2				2
-Thyroid disorders	2				2
-Parathyroid disorders	2				2
-Adrenal disorders	2				2
-Obesity - Neonatal screening of endocrinological disorders	2				2
-Hyperinsulinemia & hypoglycemia	2				2
-Gender determination disorders -Autoimmune endocrinopathy	2				2
-Water & electrolyte homeostasis	2				2
-Endocrine emergencies -Hormone resistance syndrome	2				2
-Bone metabolism & turn over	2				2
-Endocrinology & Childhood disease	2				2
-Type I diabetes mellitus	2				2
-Type II diabetes mellitus	2				2
-MODY -Neonatal diabetes	2				2
-Insulin resistance syndromes -Patient education schedule	2				2
Total	30				30

Fourth Module (Intensive Care Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Basics of mechanical ventilation.	3				3
Modes of mechanical ventilation.	3				3
Mechanical ventilation in asthmatics.	2				2
Non invasive ventilation in asthmatics.	2				2
Mechanical ventilation in ARDS.	2				2
Role of HFOV in ARDS.	2				2
Ventilator graphics.	2				2
Non invasive monitoring of ventilated child.	3				3
Invasive monitoring of ventilated child.	3				3
Weaning from mechanical ventilation.	3				3
Extubation readiness tests.	2				2
New techniques in mechanical ventilation.	3				3
Total	30				30

Fourth Module (Chest & Allergy Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Bronchial asthma	4				4
Allergic march	4				4
Insect, Ocular & drug allergy	2				2
Pneumonia	2				2
Atelectasis	2				2
Air & Fluid in pleural space	2				2
Upper & Lower airway obstruction	2				2
Pulmonary function test	2				2
Evaluation of immune system	4				4
Pulmonary manifestation of immunedeficiency	4				4
Stem cell, clinical implication	2				2
Total	30				30

Fourth Module (Cardiology Course):

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Role of pharmacotherapy and catheter intervention in CHD.	2				2
Cardiovascular manifestations of CTD	2				2
Updates in the diagnosis of IE.	2				2
Updates in the diagnosis of RF/RHD.	2				2
Updates in the diagnosis of K.D.	2				2
Updates in the diagnosis of myocarditis.	2				2
Myocardial ischemia and infarction	2				2
Cardiomyopathies	2				2
Metabolic heart disease.	2				2
Pulmonary manifestations of HD	2				2
Pulmonary edema: cardiogenic versus noncardiogenic.	2				2
management of arrhythmia.	2				2
Therapy of pulmonary hypertension.	2				2
Management of acute CHF	2				2
Cardiac tumors.	2				2
Total	30				30

Total Teaching Hours

	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
Neonatology	30				30
Genetics	30				30
Neurology	30				30
Infection	30				30
Pediatric ICU	30				30
Pediatric Hematology & Oncology	30				30
Pediatric Endocrinology	30				30
Pediatric Nephrology	30				30
Pediatric Cardiology	30				30
Pediatric Hepatology & Gastroenterology	30				30
Pediatric Chest and Allergy	30				30
Total hours	330				330

Course contents: **Clinical skills (First module)**

Clinical skill	Teaching hours
Counseling for breast feeding	6
Immunization up date program	6
Infection control (methods and planes)	6
Drug prescription counseling (antiviral, anti mycotic)	6
Diagnostic microbiology	6
TPN: preparation, technique	6
Nosocomial infections & its prevention	6
Genetic counseling	6
Methods of prenatal diagnosis	6
Methods of molecular diagnosis	6
Micro deletion syndromes (clinical cases)	6
Approach to dysmorphic child	6
Approach for diagnosis of inborn errors of metabolism	6
Modes of ventilation (conventional)	6
Modes of ventilation (non-conventional)	6
Neonatal radiology (US, CT, MRI)	6
Parental nutrition in newborn	6
Prevention of infection in NCU	6
Follow up after dischange from NCU	6
Plane for pain management in newborn	6
Total	120

Course contents: **Clinical skills (Second module)**

Clinical skill	Teaching hours
Abdominal examination	6
investigations of liver diseases (Lab & radiology)	6
investigations of GIT diseases (Lab & radiology)	6
Nutritional care of children with liver disease	6
Feeding problems in infancy and childhood	6
Celiac disease (clinical, diagnosis)	6
Inflammatory bowel disease (clinical, diagnosis)	6
Diagnostic tools for proteinuria	6
Diagnostic tools for hematuria	6
Investigations for voiding disorders	6
Clinical cases (Nephrotic, AGN)	6
Clinical cases (SLE, Bartter syndrome)	6
diagnosis of UTI	6
Hypertension: approach for diagnosis	6
Management of renal failure	6
Total	90

Course contents: **Clinical skills (Third module)**

Clinical skill	Teaching hours
Approach for diagnosis of anemia	6
Early markers of malignancy	6
Solid tumors (bone, CNS, abdominal) up dates in diagnosis & management	6
Infection in malignancy and how to manage?	6
Evaluation of primary immunodeficiency	6
Approach for diagnosis of thrombophilia	6
Histiocytosis (clinical cases)	6
Hematological malignancies (Leukemia and lymphoma cases)	6
Neurological examination and imaging	6
diagnosis of peripheral neuropathies	6
diagnosis of muscle disease	6
Clinical diagnosis (mitochondrial, peroxisomal and neurocutenous disorders)	6
childhood epilepsy	6
speech and language disorders (demonstration)	6
Molecular basis of endocrinal disorders	6
Neonatal screening of endocrinal disorders	6
Endocrine emergencies and how to manage?	6
Approach for diagnosis of disorders of sex (DSD)	6
Diabetes mellitus management and educations	6
Problems of obesity and how to manage?	6
Total	120

Course contents: **Clinical skills (Fourth module)**

Clinical skill	Teaching hours
Basics of mechanical ventilation in ICU	6
Modes of mechanical ventilation in ICU	6
Technique of mechanical ventilation in asthmatics & ARDS	6
Monitoring of ventilated child	6
Extubation and weaning from mechanical ventilation	6
New techniques in mechanical ventilation	6
Bronchial asthma updates	6
Interpretation of pulmonary function tests	6
Clinical implication of stem cells	6
Clinical cases (Pneumonia, pleural effusion, pneumothorax)	6
Evaluation of the immune system	6
How to diff. between upper and lower airway obstruction	6
Cardiac examination	6
diagnosis of IE	6
diagnosis of K.D	6
diagnosis of myocarditis	6
Role of cardiac catheter intervention in CHD	6
Approach for diagnosis of myocardial ischemia and infarction	6
Arrhythmias: types & how to manage?	6
diagnosis and management of cardiomyapathies	6
Total	120

- Log book activities and other activities (3credit hrs):

These activities include attendance of :

-Grand round meetings.

-Scientific seminars & thesis discussion

-Conferences

-Training courses and workshops

(4) Teaching methods:

4.1: lectures and scientific seminar

4.2: Clinical Practice under supervision

4.3: Clinical demonstrations, practice of skills, and discussions during grand rounds and case presentation.

4.4: Training courses.

4.5: Self learning

(5) Assessment methods:

5.1: Written. (Essay). for assessment of……. (knowledge, intellectual skills)

5.2: Oral ……. for assessment of…….(knowledge, intellectual skills)

5.3: OSCE Clinical … ….. for assessment of…….(knowledge, intellectual, practical skills and transferrable)

5.4: MCQ continuous assessment for assessment of…….(knowledge, intellectual, and transferrable)

Assessment schedule:

Written, oral, OSCE exams after 6 semesters of MD registration

MCQ: at the end of each semester

Semester & Final Exam.

Course	Marks			
	Written		Oral	OSCE
Pediatrics	Essay-1 (3hrs)	90	100	100
Pediatrics	Essay-2 (3hrs)	90		
Commentary	1.5 hrs	60		
Semester exam	MCQ	60		
Total	**500**			

(6) References of the course :

6.1: Text books:

- Illustrated text book of paediatrics by Tom Lissaeur
- Nelson's "Essentials of Pediatrics" (available from bookshops at the faculty).
- Nelson Textbook of Pediatrics.
- Manual of Pediatric Hematology (Lanzkowzky).
- Manual of Neonatal Care.
- Smith's textbook of genetics.
- Manual of Pediatric nephrology textbook.
- Suchy textbook of pediatric hepatology.

6.2: Journals:…Pediatric Clinics of North America……

6.3: Websites:…www.google.com www.pubmed.com……

6.4: Others:……

(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:**

  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)
- **CLINICAL FACILITIES:**

-Six general paediatric inpatient units at MUCH.

-Eleven specialized pediatric units including paediatric intensive care unit, infectious diseases, neonatology, gastroenterology and hepatology, genetics, allergy and immunology, endocrinology, haematology and oncology, cardiology, nephrology and neurology.

-General and specialized outpatient clinics serving around 600 patients daily. The clinics work for 6 days a week.

-Emergency service available through the emergency department of MUCH

- **SKILLS LAB:**

Paediatric resuscitation manikins.

Course coordinator: Prof. Othman E. Soliman

Head of the department: Prof. Ali Shaltot

Date