

**Al Azhar University  
Faculty of Medicine  
Department of Pediatrics  
Undergraduate Program  
Course Specification**



**Pediatric Course Specification  
Fifth Year (M.B.B.CH.)  
2015-2016**

## A)-Basic Information

<b>Program Title:</b>	<b>MB. B.Ch.</b>
<b>Type of The Program:</b>	<b>Single program</b>
<b>Code of the Course:</b>	<b>502-Pedia</b>
<b>Department Responsible</b>	<b>Pediatrics Department</b>
<b>Course Director:</b>	<b>Prof. Mosallam Nasser</b> <b>(head of the department):</b>
<b>Course Coordinator:</b>	<b>Prof. Ahmed Alsawah</b>
<b>Date of specification approval</b>	
<b>Total Marks</b>	<b>500 Marks</b>
<b>Duration of the course</b>	<b>12 weeks</b>
<b>Teaching Hours</b>	<b>Total hours: 300</b> <b>Theoretical teaching: 120 hours, 2hoursx 60days</b> <b>Clinical teaching: 96 hours, 2hoursx 48days</b> <b>Tutorial: 48 hours, 1x 48 days</b> <b>Neonatology: 12 hours, 1 hour 12 days</b> <b>Teaching sessions: 24 hours, 2 hours x 12 days</b>
<b>Teaching Staff</b>	<b>Professors</b> <b>Assistant Professors</b> <b>Lecturers</b> <b>Assistant lecturers</b>
<b>External evaluator:</b>	<b>Prof. Safinaz Elhabashy , Ain Shams University</b>

## **B)- Professional Information:**

### **1- Overall Aim of the Course:**

1. To provide the students with basic knowledge of normal and abnormal growth and development (physical, physiologic, psychosocial) and its clinical application from birth till adolescence
2. To possess adequate knowledge about the human body in health and disease and of various causes and basic mechanisms underlying diseases.
3. To develop an appropriate knowledge and skills and attitude necessary for current clinical practice to become competent in diagnosis, differential diagnosis and the ability to formulate an appropriate management of common health problems.
4. To develop appropriate knowledge and skills to formulate and carry out (where possible) an appropriate, preventive and curative role.
5. To be able to recognize and manage conditions that require urgent intervention and to apply appropriate preventive measures for them.
6. To develop positive attitude of continuous medical education and promotion of professional skills and research capabilities.
7. To provide the students with appropriate professional attitude and communication and problem solving skills.

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

#### **A-Knowledge and understanding:**

*By the end of the course, students will be able to*

**A1-** Describe normal growth and development (including developmental milestones) during infancy, childhood and adolescence, and the factors affecting them (genetic and environmental), Identify abnormalities of growth and development during infancy and childhood , and Describe appropriate management for abnormalities affecting growth and development.

**A2-** Determine the nutritional requirements and the most common nutritional disorders affecting infants and children and adolescents and describe appropriate management for disorders.

**A3-** Describe the indications, contraindications, administration and precautions of the immunizations necessary for infants and children according to the national schedule and the condition of the child.

**A4-** Recognize the most important behavioral and social issues during childhood and adolescence

**A5-** Identify common genetic diseases and their impact on children and families.

**A6-** Describe causes and pathogenesis, The clinical manifestations and differential diagnosis of the most important neonatal, pediatric and adolescent problems.

**A7-** Identify the appropriate of common diagnostic studies and proper choice among them according to the situation and be able to interpret them.

**A8-** Identify treatment plans for the most important neonatal, pediatric and adolescent problems according to protocols and guidelines.

**A9-** To recognize different neonatal, pediatric and adolescent emergencies and describe their management priorities for according to protocols and guidelines

**A10-** Demonstrate knowledge of pediatric health problem.

## **B. Intellectual Skills**

*By the end of the course, students will be able to:*

**B1-** Interpret symptoms and signs of common pediatric diseases in view of basic structural, functional and biochemical alterations.

**B2-** Interpret the results obtained from history, clinical examination and investigations in Pediatric patients

**B3-** Make decisions in the common clinical situations using problem solving skills in order to recognize, define and prioritize problems

**B4-** Select and Interpret common diagnostic tools as X ray and laboratory reports (blood picture, blood gases, urine and stool) covering the most important Pediatric conditions

**B5-** Recognize dangerous signs the need for referral of cases to higher level of care when indicated,

**B6-** Integrate and analyze data in an organized and informative manner.

**B7-** Formulate appropriate management plans for individual patients presenting with the most common Pediatric diseases and emergencies. The management plan should indicate investigations as well as treatment

**B8-** Prioritize the medical problems and their differential diagnoses

## **C. Professional and Practical Skills**

*By the end of the course, students will be able to:*

**C1-**Collect and record a structured patient medical history .

**C2-**Perform an adequate clinical examination and proper for a patient's age , including general and local examination for different body system, and identifying any abnormality

**C3-**Check vital signs in neonates, infants, children and adolescents

**C4-**Assess physical and mental development in neonates, infants, children and adolescents according to standard milestones and recognize abnormalities

**C5-**Assess nutritional status and growth of pediatric patients, using anthropometric assessments as well as perform Tanner staging

**C6-**Assess, classify and describe appropriate treatment for sick children below the age of five years according to the principles of the (IMCI).

**C7-** Create an initial plan of management for stabilization for different Neonatal and Pediatric emergencies, calculating drug dosage based on patient's criteria and health condition and write safe prescriptions of different types of drugs.

**C8-**Simulate first aid measures for different neonatal and Pediatric emergencies

**C9-**Model-based procedures and technical skills:

C9.1.Simulate first aid measures for different neonatal and Pediatric emergencies.

C9.2. Insert a cannula in a peripheral vein in pediatric manikin.

C9.3. Give IM, SC and IV injections in pediatric manikin.

C9.4.Perform competently basic life support and CPR in pediatric manikin.

C9.5.Insert a nasogastric tube in pediatric manikin

C9.6.Use a nebulizer for administration of inhalation therapy .

C9.7.Administer basic oxygen therapy .

## **D. General Skills:**

*By the end of the course, students will be able to:*

**D1-**Respect superiors, colleagues and any other members of the health profession

**D2-**Exhibit and display a professional image (professional look), following the Islamic code of medical ethics

**D3-**Communicate effectively with patients and their families and colleagues from a variety of health and social care professions

**D4-**Understand and respect the different cultural beliefs and values .

Collect ,Gather, organize and present the medical information in written, oral or electronic forms technology and Practice independent self learning and perform self and peer evaluation through IDL presentation.

**D5-** Apply the national code of ethics issued by the Egyptian Medical Syndicate.

### 3- Content of the Course:

TOPIC	%	Teaching hours				
		Total	Lecture s	Clinical & neonatology	Tutorial	Teaching sessions
1. Growth and development	5	15	4	8	3	
2. Behavioral & psychiatric problems	2	6	2		4	
3. Nutrition & Infant Feeding	10	30	8	16	4	2
4. Human Genetics	2	6	2	2	2	
5. Neonatology	10	30	16	12	2	
6. Immunology	2	6	2	2	2	
7. Allergic diseases	3	9	2	6	1	
8. Rheumatic (collagen) diseases	3	9	4	2	2	1
9. Infectious diseases	9	27	12	8	3	4
10. Digestive system / Hepatobiliary system	7	21	8	8	3	2
11. Respiratory system	5	15	6	6	2	1
12. Cardiovascular system	7	21	6	8	4	1
13. Hematology / Oncology	7	21	10	6	2	3
14. Nephrology & Urology	5	15	6	6	2	1
15. Endocrinology/Inborn Error of Metabolism	7	21	12	6	3	
16. Neurology	7	21	8	10	3	
17. Pediatric emergencies & environmental hazards	5	15	6		4	5
18. Social & Preventive Pediatric (IMCI and vaccination)	4	12	6		2	4
<b>TOTAL</b>	<b>100</b>	<b>300</b>		<b>108</b>	<b>48</b>	<b>24</b>

## **A)- Topics**

### **1. Growth and Development**

Normal growth and growth charts, abnormalities in growth and development. Assessment of different milestones of development and detection of developmental abnormalities

### **2. Behavioral & Psychiatric Problems**

Pediatric behavioral and social problems, attention-Deficit Hyperactivity, autistic disorders, feeding & eating disorders, breath holding attacks , Mental Retardation enuresis and encopresis.

### **3-Nutrition & Infant Feeding**

- Nutritional requirements, breast-feeding, formula-feeding, and nutritional disorders

### **4. Human Genetics**

- The genes, the chromosomes & the modes of inheritance , Chromosomal disorders, single gene disorders, multi-factorial inheritance, and dysmorphism ,Turner, Down and Klinefelter syndrome , Genetic Counseling

### **5. Neonatology**

-Normal newborn, neonatal resuscitation, growth of the newborn, neonatal convulsions, respiratory disorders, jaundice, metabolic disorders, hematological disorders, infections, birth injuries and surgical emergencies.

### **6. Immunology**

- Congenital & acquired immunological disorders , immunodeficiency.

### **7. Allergic diseases**

-Bronchial asthma , wheezy infants , anaphylaxis ,allergic disorders in children (allergic rhinitis, allergic eye & ear diseases and atopic dermatitis).

### **8. Rheumatic (collagen) diseases**

- Types of rheumatic disorders, Idiopathic Juvenile Arthritis, Systemic Lupus Erythematosus, Henoch Shonlein purpura, Familial Mediterranean Fever and Kawasaki disease and arthritis.

### **9. Infectious diseases**

- Febrile illness, rashes, specific infections, antipyretic drugs, antibiotics

### **10. Digestive system / Hepatobiliary system**

- Stomatitis, vomiting, diarrhea, dehydration, abdominal pain, ascites, constipation and jaundice, congenital and acquired esophageal atresia, gastroesophageal reflux disease (GERD), hypertrophic pyloric stenosis and intussusceptions, cow's milk allergy, Hirschsprung disease, malabsorption, GIT bleeding.
- liver functions & its evaluation, viral hepatitis, cholestasis, liver cell failure and liver cirrhosis.

### **11. Respiratory system**

- Upper and lower respiratory system disorders, bronchial asthma

### **12. Cardiovascular system**

- Congenital heart disease, rheumatic heart disease, heart failure, infective endocarditis, cardiomyopathy, hypertension, arrhythmias.

### **13. Hematology / Oncology**

- Anemias, bleeding disorders, common childhood malignancies

### **14. Nephrology & Urology**

- Nephrotic syndrome, proteinuria, glomerulonephritis, urinary tract infection, renal failure, enuresis

### **15. Endocrinology/Inborn Error of Metabolism**

- Hypo and hyperthyroidism, type 1 diabetes, hypopituitarism, Diabetes Insipidus, hypo- and hyperparathyroidism, hypoglycemia, hypo- and hypercalcemia, short stature and adrenal dysfunction (congenital adrenal hyperplasia).
- Inborn error of metabolism (IEM), and suggesting features, Galactosemia, Glycogen storage diseases (type I Von Gierke), Phenylketonuria, Maple syrup urine disease, Gaucher & mucopolysaccharidoses.

### **16. Neurology**

- Mental retardation, epilepsy and febrile seizures, CNS infections, cerebral palsy, hydrocephalus, microcephaly, neuromuscular disorders, flaccid paralysis,

### **17. Pediatric Emergencies & Environmental Hazards**

- Cardiopulmonary arrest, shock, common types of poisonings (organophosphorus, kerosin, corrosives & lead).
- Drug toxicity (iron, hypnotic and paracetamol).
- Burn and near drowning

### **18. Social and Preventive Pediatrics**

- Integrated Management of Childhood Illness (IMCI) and its role in
- Compulsory vaccination schedule, other vaccines, prevention of injuries,



## B)-Teaching sessions

<p><b>1- X-rays</b>  <b>Chest radiology</b>          Normal chest X-ray          Lobar pneumonia          Bronchopneumonia          Pleural effusion          Lung collapse          Lung abscess          Pneumothorax          Hydropneumothorax          Miliary shadow          Hyaline membrane disease          Congenital lobar emphysema          Diaphragmatic hernia</p>	<p><b>Cardiac radiology</b>          Normal heart X-ray          Cardiomegaly          Special cardiac configuration          Pericardial effusion</p> <p><b>GIT radiology</b>          Multiple fluid levels          Pneumoperitoneum          Pyloric stenosis          Tracheo-esophageal fistula          diaphragmatic hernia</p>	<p><b>2- Pediatric photos and videos</b>          General and emergency pediatrics          Neonatology</p>
<p><b>Skull radiology</b>          Normal skull X-ray          Skull fractures          Intracranial calcification          Increased intracranial pressure</p>	<p><b>Long bones</b>          Rickets          Achondroplasia          Osteogenesis imperfecta</p>	<p><b>3- Lab. interpretation</b>          Blood picture          Blood gas analysis          Urine analysis          Stool analysis</p>
		<p><b>4- IMCI interpretation and problem solving</b></p>

## C) Clinical Cases:

<p><b>1. Nutrition:</b>          - Protein energy malnutrition (Marasmus and Kwashiorkor), Rickets</p>	<p><b>2. Genetics:</b>          - Down syndrome (Trisomy 21).</p>
<p><b>. Neonatology:</b>          - Full term and preterm newborn          - Neonatal hyperbilirubinemia,          - Neonatal sepsis,          - Neonatal respiratory distress syndrome          - Neonatal metabolic and hematologic disorders          - Birth injuries.</p>	<p><b>5. Pulmonology:</b>          - Upper respiratory system: Viral URTI, stridor, otitis media, tonsillitis, Bronchitis,          - Lower respiratory system: bronchiolitis, pneumonia, bronchial asthma</p>
<p><b>4. Infections:</b>          - Febrile illness, Exanthemata, Parotid swelling</p>	<p><b>6. Cardiology:</b>          - Congenital heart disease: Cyanotic (Tetralogy of Fallot), Acyanotic (VSD, ASD)          - Rheumatic heart disease.</p>
<p><b>7. Neurology:</b>          - Mental Retardation</p>	<p><b>8. Nephrology:</b>          - Nephrotic syndrome</p>

<ul style="list-style-type: none"> <li>- Large Head (Hydrocephalus),</li> <li>- Microcephaly.</li> <li>- Floppy Infant (Werdnig-Hoffmann).</li> <li>- Acute Paralysis (Guillain-Barre)</li> <li>- Myopathy As Duchene Dystrophy</li> <li>- <b>Cerebral palsy.</b></li> </ul>	<ul style="list-style-type: none"> <li>- GN</li> </ul>
<p><b>9. Gastroenterology and Hepatology:</b></p> <ul style="list-style-type: none"> <li>- Gastroenteritis and dehydration,</li> <li>- Jaundice, hepatitis</li> <li>- Hepatosplenomegaly.</li> <li>- Ascites.</li> <li>- Cholestasis</li> </ul>	<p><b>10.Hematology:</b></p> <ul style="list-style-type: none"> <li>- Acute and Chronic hemolytic anemia.</li> <li>- Purpura and ecchymosis.</li> <li>- leukemia, hemophilia</li> <li>- Lymphadenopathy</li> </ul>
<p><b>11.Endocrinology:</b></p> <ul style="list-style-type: none"> <li>- Congenital hypothyroidism, short stature</li> </ul>	<p><b>12.Pediatric emergencies:</b></p> <ul style="list-style-type: none"> <li>- Stridor, wheezy chest, respiratory distress,</li> <li>- Shock, severe dehydration, heart failure,</li> <li>- Convulsions</li> <li>- Hyperpyrexia, hypothermia,</li> <li>- Hypoglycemia, diabetic ketoacidosis,</li> <li>- Acute anemia, bleeding</li> </ul>

## **D- Skill Labs.**

-Model-based procedures and technical skills:

- 1.Simulate first aid measures for different neonatal and Pediatric emergencies.
2. Insert a cannula in a peripheral vein in pediatric manikin.
3. Give IM, SC and IV injections in pediatric manikin.
- 4.Perform competently basic life support and cardiopulmonary resuscitation in pediatric manikin.
- 5.Insert a nasogastric tube in pediatric manikin
- 6.Use a nebulizer for administration of inhalation therapy .
- 7.Administer basic oxygen therapy

## **4- Methods of teaching:**

### **A – Teaching Methods:**

#### **1- Lectures:**

-Interactive Lectures would also include case studies; problem solving, diagnostic pictures and diagnostic tools.

#### **2- Clinical training:**

- Clinical demonstrations, practice of skills for :

- a - History taking training and physical signs detection.

b - Neonatal unit teaching.

### **3- Tutorial discussion:**

- for Problem solving and case discussion after clinical rounds..

### **4- Independent self learning:**

- To allow teamwork and self-learning, using internet search.

- by dividing students into further groups composed of 5 students, and each group is given certain pediatric issue to study and present the subject by PPT and discussion is done by all students and lecturer and marks are given to students.

### **5- Teaching Sessions for:**

a- IMCI and X-rays interpretation.

b- Pediatric Photos.

c- Interpretation of diagnostic laboratory tests (CBC, urine and stool analysis, and blood gases

### **6- Skill lab practical sessions:**

- To practice the required skills on manikin and simulators (pediatric skill lab is under construction).

## **B- Teaching plane:**

- All students in the pediatric round (180 students) are divided into two equal groups, one group study at Sayed Galal University Hospital and the other group study at Al- Hussien University Hospital, and each group study for 6 weeks and then change with each other.

- The following plan is done for each group:

### **1 -Lectures:**

- The student at each hospital attend lectures at lecture halls.

- Timing: 9-11 AM, six days/ week for 12 weeks (at both university hospitals)

### **2- Clinical Round:**

- The students in both hospitals are allocated to the six general Pediatrics units that constitute the pediatric department and divided into six equal groups; each group further divided into 2 smaller groups during tutorial and clinical rounds.

- Timing : 11 AM- 1 PM six days/ week for 12 weeks (at both university hospitals).

### **3- Tutorial classes:**

- Student division by same manner of clinical rounds, at the general Pediatrics units and other teaching halls.

- Timing 1 – 2 pm, six days/ week for 12 weeks.

### **5,6- Teaching Sessions and skill lab:**

- Replacing clinical round once weekly.

### **7-Neonatology teaching sessions:**

- At NICUs in both hospital

- Replacing tutorial once weekly from 1 – 2pm once weekly.

## C-Time plan:

Teaching plan is designed to be implemented in 12 weeks as following:

Item:	Time schedule hours	Teaching hours	Total
Lectures	9- 11 am, 5days/week	2 hours x 5days weekly	120 hours
Clinical rounds	11am-1 pm, 4 days/week	2 hours x 4days weekly	96 hours
Tutorial	1-2 pm, 4days/week	1 hours x 4days weekly	48 hours
Neonatology	1-2 pm, 1day/week	1 hour weekly	12 hours
Teaching Sessions_(IMCI, skill lab Sessions, lab. Interpretation, )	11am-1 pm, 1day/week	2 hours weekly	24 hours
<b>TOTAL</b>			<b>300 hours</b>

## **5- Methods of Assessment:**

**A- Attendance criteria:** Faculty bylaws

### **B- Methods of Assessment:**

<u>Method</u>	<u>Aim</u>
<b>Written examination</b> ( MCQ, Short essay, problem solving)	Assessment of: - knowledge and understanding. - Intellectual skills.
<b>Oral examination</b>	Assessment of: - Knowledge and understanding. - Intellectual skills. - General and transferable skills.
<b>Clinical examination (OEPE)</b>	Assessment of: - Clinical skills. - Intellectual skills. - Professional attitude and behavioral skills. - Communication skills. - General and transferable skills.
<b>OSCE</b> (X-ray and CT films, blood picture and blood gas reports, pediatric photos)	-Assessment of intellectual skills

### **C-Time of assessment :**

#### **1- End-Term Examination:**

- At the end of each clinical rotation.
- Attendance criteria must be fulfilled.

#### **2- Final Examination:**

- At the end of the academic year for all students (March and October months).

### **D) Examination Committee:**

**1 - Prof. Mosallam Nasser.**

**2- Prof. Mohamed Hemed.**

**3 - Prof. Sherif Reda.**

### **E-Allocated marks/Distribution**

**- Total allocated marks:(500 Marks)**

**- Distributed as follow:**

End Term Examination: (100 Marks)		
▪ Attendance:	2 Hospitals X 10 Marks	(10 Marks)
▪ Independent Learning (IDL):	2 X 5 Marks	(10 Marks)
▪ Clinical Examination:		
- OSCE: 5 cases X 5 Marks each		(25 Marks)
- One Short Case: 1Case X 15 Marks		(15 Marks)
▪ Oral Examination:		(40 Marks)
End Year Examination: (400 Marks)		
▪ <u>Written Examination:</u> (200 Marks)		
- MCQ:	50 X 2 Marks	(100 Marks)
- 3 Problem Solving:	3 X 10 Marks	(30 Marks)
- Short Questions (SAQ):	7 X 10 Marks	(70 Marks)
▪ <u>Clinical Examinations</u> (100 Marks)		
- Short Cases:	2 Cases X 25 Marks	(50 Marks)
- SOSCE:	5 Stations X 10 Marks	(50 Marks)
▪ Oral Examination:	(50 Marks)	
▪ STATIC OSCE	(50 degrees).	

## 6- List of references:

### **A) Basic Material:**

- Departmental book (3<sup>rd</sup> edition 2014-2015): available for students to purchase from pediatric department secretary.
- Department CD: containing photos, videos, certain topics and presentations in pediatrics and neonatology (available to students associated with departmental book ).
- Essential pediatrics (prof. Elmougi) 2014: available for students to purchase from pediatric department secretary.

### **B) Suggested Materials**

- Nelson's text book of Pediatrics 20th edition: Robert M. Kliegman, , Bonita M.D. Stanton, Joseph St. Geme, Nina Schor and Richard E. Behrman, (2015): (available from bookshops at the faculty).

### **C) Web Sites:**

- Department website: [www.pediaazhar.com](http://www.pediaazhar.com)

**Course coordinator:**  
**Prof .Ahmed Alsawah**

**Head of Department:**  
**Prof. Mosallam Nasser**

Date: / 11/2015