



توصيف برنامج الدكتوراة

(عام ٢٠١٣-٢٠١٤)

Basic information

*** معلومات أساسية :**

MD program in Pediatrics

١- اسم البرنامج :

(مشترك)

٢ - طبيعة البرنامج :

3- القسم/ الأقسام المسؤولة عن البرنامج: Physiology –Pathology

4- تاريخ إقرار البرنامج فى مجلس القسم : 2013/6/7

5- تاريخ إقرار البرنامج فى مجلس الكلية: 2013/6 /16

6- منسق البرنامج: Prof., Prof. Iman Abd El-Rehim

7- المراجع الداخلى:- Prof. Ahmed Elshazly Professor of pediatric

6- المراجع الخارجى : Professor Hala Salah Eldin

Professor of pediatrics- Cairo University

Professional information

*** معلومات متخصصة:**

١. الأهداف العامة للبرنامج :

1- Program aims:

The overall aims of the program are:

1.1 - To provide knowledge and understanding the physiology of human body systems and pathology of various diseases.

1.2-To enable the student to meet and reflect the needs of our local community and respond appropriately to cultural and medical needs

1.3- To acquire the competence and experiences to effectively manage pediatric patients with different diseases.

1.4-To update diagnostic and therapeutic protocols of pediatric diseases and emergency



1. 6- To analyze scientific knowledge in pediatrics and related branches.
- 1.7- To determine the professional problems and find new solutions for them.
- 1.8- To recognize updated methods and tools for practice in pediatrics.
- 1.9- To develop appropriate communication and leading team work in different professional fields.
- 1.10 - To practice making decision by using the available data.
- 1.11- To know appropriate utilization of the available resources and finding new sources.
- 1.12- To practice taking active role in the community and saving environment.
- 1.13- Continuous self development and transferring knowledge and experiences to others.
- 1.14- To develop scientific research education related to medical practice and post graduation development.

٢ - المخرجات التعليمية المستهدفة من البرنامج :

2-Intended Learning Outcomes (ILOS):

٢.أ - المعرفة والفهم :

2.a. Knowledge and Understanding

On successful completion of the program, the graduate will be able to:

- 2.a.1 Identify the Physiology of human body systems and changes during different stages (intrauterine, neonatal, infancy, childhood & adolescence).
- 2.a.2. Describe the etiology, pathogenesis, and pathology of pediatric diseases.
2. a.3.Demonstrate the role of genetics and environment in patients affection.
- 2.a.4. Highlight the update diagnostic and therapeutic protocols in pediatric diseases and emergencies.
2. a.5. Classify basic and advanced knowledge in Pediatrics and related sciences (Physiology, Pathology, and Genetics)
- 2.a.6. Illustrate decision making in pediatric problems.
- 2.a.7. Explore professional, ethical and legal aspect of practice.



- 2.a.8. Describe patient characteristics and different clinical presentations of pediatric diseases.
2. a.9. Demonstrate the basic principles of scientific research working.

٢. ب - القدرات الذهنية :

2.b. Intellectual Skills:-

On successful completion of the program, the graduate will be able to:

- 2.b.1. Evaluate case data and solving problem issues.
2.b.2. Differentiate between pediatric diseases to reach diagnosis.
2.b.3. Justify the indications and contraindications of different diagnostic procedures of pediatric diseases.
2.b.4. Analyze data and find point of weakness and strength in pediatrics and related .
2.b.5. Differentiate between the pediatric diseases to make decisions in management.
2. b.6. Construct practice evidence based Pediatrics.
2.b.7. Interpret the physiology and pathological principles related to pediatric diseases.
2.b.8. Construct research curriculum and analyze scientific findings.

٢. ج . مهارات مهنية وعملية :

2.c. Practical & Professional Skills:-

On successful completion of the program, the graduate will be able to:

- 2.c.1. Implement professional perspective in clinical practice.
2.c.2. Apply management plan of patient in different clinical situations.
2.c.3. Design research with critical evaluation of research findings.
2.c.4. Use data with understanding of strength and weakness of the data.
2.c.5. Evaluate the need for multidisciplinary approach for management.
2.c.6. Perform basic and advanced skills in pediatric field.
2.c.7. Evaluate the used methods in the field of pediatrics to update it.
2.c.8. Use updated technological methods in professional practice.
2.c.9. Design plans to improve professional performance with upgrading of others' performance.

٢. د . مهارات عامة و منتفله :

2.d. General and transferable skills:-

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



2.d.1. **Communicate** clearly and effectively with patients and their family members with respect to them, colleagues and all members of the health profession.

2.d.2. Work effectively as a member or leader of an interdisciplinary team with proper deal with time.

2.d.3. *Use* different sources to get different knowledge by themselves in different types of the diseases

2.d.4. Demonstrate competence in problem solving.

2.d.5. plan to personal and career development.

2.d.6. **Cope up** with difficult situations as breaking news.

2.d.7. Learning junior members and evaluate their work.

٣ - المعايير الأكاديمية للبرنامج:

3. Academic Standards:

- **Academic Standards of MD Program of pediatrics**, approved in department council date 7 / 6 / 2013, and in faculty council no(354) date 16 / 6/ 2013. (ملحق ١)

4- العلامات المرجعية:

4- Reference standards

a) المعايير القياسية لبرامج الدراسات العليا (درجة الدكتوراة) الصادرة عن الهيئة القومية لجودة التعليم والاعتماد مارس ٢٠٠٩

Academic reference standards (ARS) , Doctoral Program (March 2009)

which were issued by the National Authority for Quality Assurance & Accreditation of Education NAQAAE (ملحق ٢)

5- هيكل ومكونات البرنامج :

(5): Program structure and contents:

أ - مدة البرنامج : 2.5years

Program duration

- ✚ **1st part:** - One Semester (6 months).
- ✚ **2nd part:** - Two Semester (18months).
- ✚ **Thesis :**6months



ب - هيكل البرنامج:

Program structure

- Total hours of program 60 credit hours
- Theoretical18hrs ...
- Practical27hrs...
- Thesis15hrs...

Compulsory:

Selective:

Elective

ج - مستويات ومقررات البرنامج:

الزامي Compulsory

الساعات المعتمدة	الكود	المقررات	البند
3 ساعات	PEDI 701	فسيولوجيا	الجزء الأول
3 ساعات	PEDI 702	باثولوجيا	
18 ساعة	PEDI 704	طب الأطفال (إكلينيكي)	الجزء الثاني
6 ساعات	PEDI 703	ورش عمل	
15 ساعة		كراسة الأنشطة: تسجل بها الأنشطة المختلفة مثل حضور الندوات العلمية والمؤتمرات والدورات التدريبية وإجراء أبحاث إضافية	
15 ساعة			رسالة الدكتوراه
60 ساعة			الاجمالي

First part (24 weeks duration/ 6 months)

a- Compulsory courses:



Pediatrics MD program



Course Title	Course code	NO. of hours per week			Total hours	
		Theoretical		Laboratory/ Practical		Total
		Lectures	Seminar			
Physiology	PEDI 701	2		2	44	
Pathology	PEDI 702	1.5		1.5	58.5	
Log book activities						
Total.		3.5	1.5		102.5 Hours	

b- Elective courses: none

c- Selective courses: none

Second part (72 weeks duration/18 months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total teaching hours	
		Theoretical		Laboratory /practical		Total
		Lectures	Seminars			
Pediatric	PEDI 704	2	1	5.5	10.5	
Log book activities						
Total.		4	1/for 21w	5.5	705	
Thesis					15 credit	



b- Elective courses: none

C- Selective : none

٦- محتويات المقررات (راجع توصيف المقررات)

- - كود المقرر
- اسم المقرر :
- المحتويات: (طبقاً لما هو مذكور في اللائحة)

٧ - متطلبات الإلتحاق بالبرنامج: (طبقاً لما هو مذكور في اللائحة):

(V): Program admission requirements:

- مادة (٢٣) : (يشترط لقياد الطالب لدرجة الدكتوراه في الطب أو الجراحة أو العلوم الطبية الأساسية أن يكون:
- حاصلاً على درجة الماجستير في مادة التخصص بتقدير جيد على الأقل من إحدى جامعات ج م ع
- أو على درجة معادلة لها من معهد علمي آخر معترف به من الجامعة
 - مدة الدراسة لنيل الدكتوراه سنتان ونصف موزعة كما لآتي :
 - جزء أول : علوم أساسية • فصل دراسي لمدة ستة شهور (٦ ساعات معتمدة) ومن يرسب يعيد مادة الرسوب فقط •
 - الجزء الثاني : ثلاث فصول دراسية لمدة سنة ونصف (٣٩ ساعة معتمدة) يستوفي خلالها الطالب الساعات المعتمدة ثم يسمح له بالتقدم لامتحان التحريري وإذا اجتاز الامتحان التحريري بنجاح يحق له التقدم الى الامتحان الشفهي والعملية والإكلينيكي خلال شهر من تاريخ الامتحان التحريري •
 - رسالة : ١٥ ساعة معتمدة



تبدأ الدراسة عند بداية التسجيل تنتهى بامتحان شامل فى نهاية كل أربع فصول دراسية بعد اجتياز الطالب امتحانات الجزء الأول بنجاح يسمح له بتسجيل رسالة لمدة أربعة فصول دراسية تبدأ عند بداية الفصل الدراسى الثانى وتناقش بعد مرور عامين على الأقل من تاريخ تسجيل الرسالة على أن تكون المناقشة بعد ستة اشهر على الأقل مع اجتياز الامتحان التحريرى والإكلينيكية والشفهى)

الامتحان الشامل •

يمنح الطالب الدرجة بعد مناقشة الرسالة واجتياز الامتحان الشامل •
يكون التقدم للقيود لدرجة الدكتوراه مرتين فى السنة خلال شهرى مارس وأكتوبر من كل عام •

٨ - القواعد المنظمة لاستكمال البرنامج

مادة (٦): تتولى لجنة الدراسات العليا بالكلية عن طريق لجنة تشكل لكل تخصص من أعضاء مجلس القسم التابع له المادة والقسم المانح للدرجة وضع البرنامج التفصيلي للمقررات فى حدود الساعات المعتمدة الواردة باللائحة وعند الاختلاف يتم الاسترشاد بمقررات جامعة القاهرة ومقررات الشهادات العالمية الاوربية والامريكية يعتمدها مجالس الأقسام ثم يقرها مجلس الكلية وتشمل هذه الساعات محاضرات نظرية ودروس عملية وتدريب اكلينيكي ومحاضرات وندوات مشتركة.

مادة (٧): يشترط فى الطالب لنيل درجة ماجستير التخصص فى أحد الفروع الاكلينيكية والعلوم الطبية الأساسية:

أ- حضور المقررات الدراسية والتدريبات الاكلينيكية والعملية والمعملية بصفة مرضية طبقا للساعات المعتمدة.

ب- أن يقوم بالعمل كطبيب مقيم أصلى أو زائر لمدة سنة على الأقل فى قسم التخصص بالنسبة للعلوم الاكلينيكية.

ت- أن ينجح فى امتحان القسمين الأول والثانى.

ث- اجتياز الطلب لثلاث دورات فى الحاسب الآلى (دورة فى مقدمة الحاسب – دورة تدريبية متوسطة – دورة فى تطبيقات الحاسب الآلى) وذلك قبل مناقشة الرسالة.

ج- اجتياز اختبار التوفيل بمستوى لا يقل عن ٤٠٠ وحدة وذلك قبل مناقشة الرسالة.

أن يقوم باعداد بحث فى موضوع تقره الجامعة بعد موافقة مجلس القسم ومجلس الكلية ينتهى باعداد رسالة تقبلها لجنة التحكيم.

**9 - طرق وقواعد تقييم الملتحقين بالبرنامج****9- Students Assessment methods:**

م	الوسيلة	مخرجات التعلم المستهدفة
1	Written examination	To assess knowledge & Understanding - intellectual skills. 2.a.2:2.a.4,2.a.5,2.a.6,2.a.8, 2.a.9--- 2.b.1, 2.b.2, 2.b.3-2.b.4-2.b.5-2.b.6
2	Oral examination	To assess knowledge, Understanding intellectual skills, General & transferable skills. 2.a.2:2.a.3 2.a.4 2.a.9--2.b.1, 2.b.2, 2.b.4,2.b.5, 2.b.6---2.c.1 2.c.2 2.c.5 2.c.7:2.c.9 ---2.d.1-2.d.4- 2.d.5,2.d.6,2.d.6,2.d.7
3	Practical /clinical examination	To assess, intellectual skills, professional , general & transferable skills 2.b.1, 2.b.2, 2.b.4,2.b.5 ---2.c.1:2.c.6----2.d.1- 2.d.3, 2.d.4, 2.d.6,2.d.7
4	Thesis Discussion	To assess, intellectual skills, clinical, professional , general & transferable skills 2.a.7,2.a.8,2.a.9---2.b.8, --- 2.c.3,2.c.8,2.c.9----2.d.1-2.d.3, 2.d.4, 2.d.5

Final exam.**First part**

إجمالي	الدرجة				الامتحان	المقرر
	إكلينيكي	عملي	نقسي	تحريري		
200			100	100	امتحان تحريري مدته ثلاث ساعات + امتحان نقسي	الفسولوجيا



200	٥٠	٥٠	١٠٠	اختبار تحريري مدته ثلاث ساعات + اختبار شفهي + عملي	الباثولوجيا
٤٠٠	إجمالي الدرجة				

Second part

إجمالي	الدرجة				الاختبار	المقرر
	عملي	إكلينيكي	شفهي	تحريري		
				٢٠٠ +	• اختباران تحريريان مدة كل منهما ثلاث ساعات + اختبار تحريري (حالة) • اختبار شفهي • اختبار إكلينيكي (3 حالة قصيرة "+ حالة طويلة)	طب الأطفال
٥٥٠	إجمالي الدرجة					

Thesis: pass or fail according to committee decision approved by Department, Faculty, and University councils

10 - طرق تقويم البرنامج :

10- Evaluation of Program:

Evaluator	Tools	Sample
Internal evaluator (s) مقيم داخلي	Focus group discussion Meetings	Report ٢-1
External Evaluator (s) مقيم خارجي	Reviewing according to external evaluator checklist report of NAQAA.	1-2 Report
Senior student (s) طلاب السنة النهائية	مقابلات , استبيان	جميع الطلبة
Alumni الخريجون	مقابلات , استبيان	عينة لا تقل عن ٥٠% من الطلبة



Pediatrics MD program



		أخر ٣ دفعات
Stakeholder (s) أصحاب العمل	مقابلات ، استبيان	مخبة ممثلة لجميع جماعه العمل
Others طرق أخرى	None	

Program coordinator:

Prof. Iman Abd El-Rehim

Signature & date:

توصيف المقررات

Program courses

	First part :
1	Physiology
2	Pathology

	Second part
1	Pediatrics



Benha University
Faculty of Medicine
Department of physiology



Course Specifications

Course title: Human PHYSIOLOGY

Code: PEDI 701

Academic Year (2013 – 2014)

- **Department offering the course:** PHYSIOLOGY for MD pediatric
- **Date of specification approval:**
 - Department council date...7/6/2013.....

A- Basic Information

- **Allocated marks:** 200 marks.
- **Course duration:** 15 weeks of teaching.

Teaching hours : lectures : 44hrs

B- Professional Information

1 – Overall Aims of Course

- 1.1.** Course aims at approaching to the detailed knowledge of human physiology
- 1.2.** Facilitate understanding the clinical data for the student in the clinical practice.

2– Intended learning outcomes of course (ILOs)



2.1- Knowledge and understanding:

By the end of this course, students should be able to:

2.1-1 List according to priority the main functions of systems, organs and cells.

2.1.2 Explain and describe the basic and detailed physiological processes in correct medical terms and in correct order.

2.1.3 Memorize important physiological definitions and laws.

2.1.4. Discuss the different mechanisms of homeostasis and how to use it in applied physiology.

2.2- Intellectual skills:

By the end of this course, students should be able to:

2.2.1- Identify deviations from the normal physiology and its effects.

2.2.2- Interpret clinical manifestations into physiological data.

2.2.3- Illustrate physiological information in the form of simplified diagrams with complete data on it.

2.2.4- Interconnect different branches of physiology to that of pediatrics.

2.2.5- Analyze any physiological curve related to pediatrics.

2.2.7- Analyze updated physiological information.

2.2.8-. Describe the normal structure and function of the human body and mind at the molecular, biochemical, cellular, levels (including the principles of genetics), to maintain the body homeostasis.

2.3- Professional skills:



By the end of this course, students should be able to:

- 2.3.1- comment on acid base and electrolyte balance reports.
- 2.3.2- Diagnose different laboratory tests.
- 2.3.3- Perform pulmonary function tests
- 2.3.4- Exam intestinal motility in animals under various conditions.
- 2.3.5 Exam skeletal and smooth muscle contraction
- 2.3.6- Write ECG report findings.

2.4- General and transferable skills

By the end of this course, students should be able to:

- 2.4.1- deal properly and cautiously in a lab.
- 2.4.2- Use the sources of biomedical information to remain current with the advances in knowledge & practice.
- 2.4.4- Demonstrate the functions of the body and its major organ systems that are seen in pediatrics diseases and conditions.

3-Content:

- **Autonomic Receptors.**
- **Gas transport by the blood.**
- **Surfactant.**
- **Factors affecting exchange of gases across the pulmonary Membrane.**

- **Regulation of respiration.**
- **Hypoxia and cyanosis.**
- **Arterial blood pressure and its regulation.**
- **C.O.P and its regulation.**
- **Capillary circulation.**
- **Hemorrhage and shock**



- Edema.
- Water and electrolyte balance.
- Acid Base balance.
- Functions of renal tubule.
- Thyroid Hormones & its disturbance.
- Physiology of growth& its disturbance.
- Supra renal gland hormones.
- Basal ganglia
- Pyramidal and extra pyramidal tracts.
- UMNL and LMNL.
- Anomies.
- Homeostasis.
- Erythropoietin
- Leucocytes and immune system .
- Fever
- Vomiting
- Intestinal Motility and secretion
- Jaundice.

4– Teaching and learning methods:

4.1. Methods used:

- 4.1-1. lectures
- 4,1.2.-Seminars
- 4,1.3-Conferences

4-2-Teaching plan;

Time plan:

Item	Time schedule	Teaching hours
Lectures	1 time/week (each time 2hours)	44hours

5- Student assessment methods:

5-a) Assessment TOOLS:



Tool	Purpose (ILOs)
Written examination	To assess knowledge understanding ,intellectual skills.2.1.1:5---2.2.1:8
Oral examination	To assess understanding and knowledge ,intellectual, professional general and transferable skills,2.1.1:5-2.2.1:8----2.3.1:6—2.4.1:5

5-b) TIME SCHEDULE:

Exam	Week
- Final exam	at end of second term (May-June)

5-c-Assessment time schedule

Assessment 1... Written and oral

5-d-weighting system (formative or summative).**Weighting System:**

Examination	Marks allocated	% of Total Marks
2- Final exam:		
a- Written	100	50%
b- Oral	100	50%
Total	200	100%

- Passing grades are: EXCELLENT >85%, VERY GOOD 75- <85%, GOOD 65- <75% and FAIR 60-<65%.

FORMATIVE ASSESSMENT:

- Student knows his marks after the Formative exams.

5-E) Examination description:

Examination	Type	Description
Final Examination	1. Written	Written paper composed of short essay-type questions, long essay.



	2. Oral	One oral examination station with 2 staff members (10-15 minutes: 4-5 questions)
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6- List of references

6.1 - Essential books (text books)

Poul-Erik Paulev(2007):Textbook in Medical Physiology And Pathophysiology
Essentials and clinical problems

6.2. **Kim E. Barrett ,Susan M. Barman ,Scott Boitano ,Heddwen Brooks:**
Ganong's Review of Medical Physiology, 24th Edition (LANGE Basic Science) – April 26, 2012

6.3 - Periodicals, Web sites, ... etc

www.jap.physiology.org.

www.physiologyonline.physiology.org/cgi/content

7- Facilities required for teaching and learning

1. Data show.
2. Overhead projector.

Course coordinator: Prof. Alaa Elteleis

Head of Department: Prof. Alaa Elteleis



*Benha University
Faculty of Medicine
Department of pathology*



Course Specification

Course title: Human Pathology

(Code): _PEDI 702

Academic Year (2013 – 2014)

- **Department offering the course:** Human Pathology Department
- **Major or minor elements of the program:** Minor **for : Doctoral degree of Pediatric .**

A) Basic Information:

- **Allocated marks:** 200_marks
- **Course duration:** 24 weeks of teaching
- **Teaching hours: lectures:** 36hrs –**practical :**22.5 hours

B) Professional Information:

1- Overall Aim of the Course:

- 1.1. Apply basic pathological knowledge essential for the practice
- 1.2. To provide basic and specialized services in relation with biopsy diagnosis in the practice of medicine and investigations.
- 1.3. To determine the running problems as early tumor detection and diagnosis of most of human body system diseases.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

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

- 2.1.1. Discuss different types of biopsies.
- 2.1.2. Identify laws in relation to the practical work, medical



practice and be acquainted with related relevant amendments and also related judgments passed by constitutional courts .

2.1.3 Describe the clinical manifestations and differential diagnosis of common pathological cases in pediatrics.

2.1.4. Identify the principles that govern ethical decision making in clinical practice as well as the pathological aspect of medical malpractice..

2.1.5. state the importance of life-long self-learning required for continuous professional development.

2.1.6. Identify the scope and impact of human rights law on persons and groups.

2.1.7 Identify fundamental knowledge of medical disciplines related to pediatric clinical applications

2.b. Intellectual Skills:

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

2.2.1. Diagnose the risky problems that could be met during taking biopsies .

2.2.2. Diagnose the clinical and investigational database problem to be proficient in clinical solving.

2.2.3. Perform development in his practice.

2.2.4. Perform the most appropriate and cost effective diagnostic procedures for each problem.

2.2.5. interpret the knowledge of laws in relation to medical practice and be acquainted with related relevant amendments and also related judgments passed by constitutional courts .

2.2.6 Analyze the running problems as early tumor detection and diagnosis of most of human body system.

2.c. Practical and Clinical Skills:

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

2.3.1. Diagnose all important pathological aspects for early cancer detection and assessment.

2.3.2. Perform the gross examination and able to describe the findings of different organs efficiently

2.3.3. Diagnose and manage different cases in pediatric field

2.3.4. perform assessment of reports like cancer assessment report, cytological report and immunohistochemical report.

2.3.5 perform basic and specialized services in relation with biopsy diagnosis in the practice of Pediatrics .

2.d. General and transferable Skills:

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

2.4.1. work effectively as a member or a leader of an interdisciplinary team and

2.4.2. evaluate others by putting rules & regularities .



2.4.3. Perform life-long self-learning required for continuous professional development

2.4.4. use communication technology to remain current with advances in knowledge and practice by using the sources of biomedical information.

2.4.5. perform self criticism. .

3- Course contents:

Subject	Lectures (hrs)	Practical (hrs)
General Pathology		
Cell response to injury, Stem cells and repair, Tissue deposits	3	0
Inflammation ,Granulomas ,Viral disease	3	3
Disturbance of growth Neoplasia, Developmental and genetic diseases	4	2
Circulatory disturbances, Radiation Basic imunopathology	3	0
Diagnostic methods in pathology	2	0
Special Pathology		
Diseases of Infancy & Childhood	3	0
Tumors of infancy and childhood	3	2
Rickets.	1	0
Diseases of the Renal system:	2	6
Diseases of Cardiovascular system	3	4
Diseases of G.I.T. & Liver	3	4
Diseases of Lymphatic system, blood &bone marrow	3	2
Diseases of CNS- Bone	3	1.5
Total	36hr	22.5



4- Teaching and learning methods:

METHODS USED:

- 4.1-General lectures & interactive learning.
- 4.2-Small group discussions and case studies
- 4.3-Practical sessions
 - a- Histopathology slide lab
 - b- Museum of pathology.

TEACHING PLAN:

Lectures: all students

1 /week, Time from 10_ to 11am_.

Tutorials:

Practical classes

Time plan:

	Hours / week	Total hours
1- Lectures	1.5/w	36
2- Practical	1.5w/15	22.5
Total		58.5 hr

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty by laws

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	to assess knowledge, understanding & intellectual skills 2.1.1:2.1.8.....2.2.1:2.2.6
Oral examination	to assess knowledge, understanding & intellectual skills & general transferable 2.1.1:9 2.2.1:2.2.6----- 2.4.1:5
Practical examination	to assess professional and practical skills ,general transferable 2.4.1:2.4.5 2.3.1:2.3.5

5-C) TIME SCHEDULE: Faculty bylaws



Exam	Week
1- First part:	24w
- written	
- oral	25w
- practical & clinical	25w

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
1- First part:		
a- Written	100	50%
b- Practical	50	25%
c- Oral	50	25%
Total	200	

- The minimum passing & Passing grades (Faculty bylaws).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
1- <u>First part:</u>	e.g. MCQs, shorts assay, long essay, case reports,
a- Written	problem solving.....
b- Practical	e.g. Do, identify
c- Oral	e.g. How many sessions
Total	

6- List of references:**6.1 Course notes**

- 1- Handouts updated, administered by staff members
- 2- Museum notebook.
- 3- CDs for histopathological slides and museum specimens are available at the department.

6.2- Essential books (text books)

- Rosai and Ackerman's Surgical Pathology Juan Rosai, Mosby 2004
- Sternberg's Diagnostic surgical Pathology 4th edition, Lippincott Williams and Wilkins
- Kumar V ,Abbas AK ,Fausto N:Robbins and Cotran Pathologic Basis of Disease ,7th ed.;2005, Elsevier Saunders. Available at faculty bookshops & main library.



6.3- Periodicals, Web sites, ... etc

<http://www.pathmax.com/> <http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#2>
<http://www.med.uiuc.edu/PathAtlasf/titlePage.html>
<http://www.medscape.com/pathologyhome>

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls:
- Small group classes
- Laboratory
- Information technology / AV aids
- Models etc

Course coordinator: Prof.Dr. Hala Adel Agina

Head of Department: Prof.Dr.Abdel-lattif El-Balshi



Benha University

Faculty of Medicine

Department of Pediatrics

Course Specifications

Course title: PAEDIATRICS

Code: PEDI 704

Academic Year (2013 - 2014)

- **Major or minor elements of the program:** Major.
- **Date of specification approval:** - Department council date 7/6/2013

A) Basic Information:

- **Allocated marks:** 550 marks.
- **Course duration:** 72 weeks of teaching.
- **Total teaching hours:** 705hr [lectures: 288hrs ----**Practical : 417**]

B) Professional Information:

1- Overall Aim of the Course:

- 1-1 To equip candidates with the physiologic and pathologic background knowledge and academic basis of pediatrics.
- 1-2 To equip candidates with the knowledge and skills necessary to practice clinical pediatrics
- 1-3 To equip candidates with the knowledge and skills necessary to practice neonatal medicine
- 1-4 To equip candidates with the knowledge and skills necessary to practice child health



- 1-5 To equip candidates with the knowledge and skills necessary to comprehend and apply clinical genetics
- 1-6 To equip candidates with the communication skills and attitudes towards patient care and ethics of treatment and research
- 1-7 To equip candidates with the skills necessary to interpret and practice basic research in pediatrics
- 1-8 To produce graduate able to acquire the competence and, reflect and meet the need of our local community and respond appropriately to cultural and medical needs.
- 1-9 To produce physician who are better prepared to understand, reflect and meet the need of our local community and respond appropriately to cultural and medical needs.
- 1-10 Update in diagnostic and therapeutic protocols of pediatric disease and emergency.

2- Intended Learning Outcomes (ILOs):

2-1 Knowledge and understanding:

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

- 2-1-1 ***Distinguish*** the physiological, and, pathological basis of neonatal and pediatric diseases
- 2-1-2. Discuss scientific principle of the etiology, role of environment and genetic factors in the pathogenesis of pediatric diseases
- 2-1.3. mention updated diagnostic and therapeutic protocols in pediatric diseases Pediatric emergencies
- 2-1.4. Predicts basics and advanced knowledge in pediatric and related branches
- 2-1.5. state proper decision in different pediatric problems.
- 2-1.6. identify Professional, ethical and legal practice
- 2-1.7. Understand patient characteristics and different clinical presentations of pediatric disease.
- 2-1-8 Summarize data acquired from patients to diagnose different conditions.

2.2. Intellectual Skills:

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

- 2.2.1 Formulate case study and problem solving issues.



- 2.2.2. Differentiate between different pediatric diseases to reach diagnosis.
- 2.2.3. Justify indications and contraindications techniques of different diagnostic procedures of pediatric diseases.
- 2.2.4. Analyze data with detection of strength and weakness of this data.
- 2.2.5. Analyze situations to the pediatric diseases to make decisions in management.
- 2.2.6. Practice evidence based pediatrics.
- 2.2.7. Interpret the physiological and pathological principles related to pediatric diseases.
- 2-2-8 Design diagnostic and management plan of patients.
- 2-2-9 Construct research plan and evaluate scientific findings.

2-3- Practical and Clinical skills:

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

- 2-3-1 DIAGNOSE clinical and diagnostic findings to reach a founded diagnosis
- 2.3.2. Evaluate management plan of outpatients, ward, and emergency patients.
- 2.3.3. Carry out research with evaluation of research results.
- 2.3.4 Perform research interpretation and take clinical decisions based on evidence based medical practice
- 2.3.5. Articulate the need for multidisciplinary approach for management.
- 2.3.6. Perform basic and new skills in pediatric field.
- 2.3.7. Develop the used methods in the field of pediatric to fit the cases.
- 2.3.8. Use technological methods in professional practice
- 2.3.9. Perform professional performance upgrading steps.
- 2-3-10 PERFORM essential procedures for care of neonates in intensive care and pediatric intensive care as well as
- 2.3.11. Manage acute and chronic ill pediatric patients in general wards and outpatient.

2-4 General and transferable skills:

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



- 2-4-1 Communicate with patients at all ages and their family members and care-givers
- 2-4-2 Respect the rights of patients and their families to full understanding, choices and consent to management plan
- 2-4-3 Perform research with conduction of ethical rules
- 2-4-4 Communicate effectively with other physicians, and other health professionals.
- 2.4.5 Work effectively as a member or a leader of an interdisciplinary team.

3- Course contents:

TOPIC	Theoretical hrs	Practical hrs
1 Growth and development	15	19
2 Nutrition and, Infection, preventive	15	20
3 Acutely ill child, fluid therapy	12	24
4 Nephrology	15	20
5 Cardiology	15	20
6 Respiratory system	15	20
7 Hematology Neoplastic Disease and Tumors	15	22
8 Psychological Disorders and Social	10	18
9 Endocrine and metabolic	15	20
10 Neurology, neuromuscular disorders	15	22
11 Gastrointestinal	14	20
12 Psychological, social Pediatrics and others	10	18
13 immunology, allergic rheumatic	16	20
14 The Fetus and the Neonatal Infant	20	25
15 Genetics and Metabolic Diseases	16	20
16 Bone and Joint Disorders	10	16
Total	(228)100%	(324)100%



III.A) TOPICS:

The field of pediatrics: Overview of Pediatrics, Ethics in pediatric care, Preventive pediatrics.

Growth and Development

Overview and Assessment of: Variability, Fetal Growth and Development.

The Newborn, The First year, The Second Year, The Preschool Years ,Early School Years, Adolescence ,Assessment of Growth and Development .

Nutrition

Nutritional Requirements, the Feeding of Infants and Children,
'Malnutrition, Obesity, Vitamin Deficiencies and Excesses

Pathophysiology of Body Fluids and Fluid Therapy

Water, Sodium, Potassium, Chloride, Calcium, Magnesium, Phosphorus,
Hydrogen Ion, Fluid Therapy, Principles of Therapy, Electrolyte
Treatment of Specific Disorders,

The Acutely Ill Child

Evaluation of the Sick Child in the Office and Clinic, Injury Control,
Emergency Medical Services for Children, and Child; Scoring Systems,
Stabilization of the Critically Ill Child, Acute (Adult) Respiratory Distress
Syndrome, Drowning and Near-Drowning, Burn Injuries, Cold Injuries
Anesthesia and Peri operative Care, Pain Management in Children,

Genetics and Metabolic Diseases



Molecular Diagnosis of Genetic Diseases and Patterns, Chromosomal Clinical Abnormalities, An Approach to Inborn Errors of metabolism, defects in metabolism of AA, lipids and proteins ,MPS, PORFERIA and porgeria

The Fetus and the Neonatal Infant

Non-infectious Disorders

Overview of Mortality and Morbidity, The Newborn Infant, High-Risk Pregnancies, The High-Risk Infant, Clinical Manifestations of Diseases in the Newborn Period, Birth Injury, Delivery Room Emergencies, Respiratory Tract Disorders, Digestive System Disorders, Blood Disorders: The Umbilicus, Metabolic Disturbances, The Endocrine System, dysmorfology and infections

Infections in Neonatal Infants

Pathogenesis and Epidemiology, Clinical Syndromes,

Special Health Problems during Adolescence

The Epidemiology of Adolescent Disease, Depression, Suicide,: Violent Behavior, Anorexia Nervosa and Bulimia, Substance Abuse, The Breast, Menstrual Problems, Contraception, Pregnancy, Sexually Transmitted Diseases,

The Immunologic System and Disorders

The Child with Suspected Immunodeficiency, Primary B-Cell Diseases, Primary T-Cell Diseases, Combined B- and T-Cell Diseases, Disorders of Phagocyte Function, Leukopenia, Leukocytosis, Disorders of the Complement System, Graft-versus-Host Disease

Allergic Disorders



Allergy and the Immunologic Basics of Atopic Disease, Principles of Treatment, Allergic Rhinitis, Asthma, Atopic Dermatitis, Urticaria-Angioedema, Anaphylaxis, Serum Sickness, Adverse Reactions to Drugs, Insect Allergy, Ocular Allergies, Adverse Reactions to Foods, drugs

Rheumatic Diseases of Childhood

Evaluation of the Patient with Suggested Rheumatic Disease, Treatment of Rheumatic Diseases, juvenile Rheumatoid Arthritis, Spondyloarthropathies, Post-infectious Arthritis and Related Conditions, Systemic Lupus Erythematosus Juvenile Dermatomyositis, Scleroderma, Kawasaki Disease, Vasculitis Syndromes, pain syndromes

Infectious Diseases

General Considerations Fever,

Clinical Syndromes

Fever Without a Focus, Sepsis and Shock, Central Nervous System Infections, Pneumonia, Gastroenteritis, Viral Hepatitis, Osteomyelitis and Suppurative Arthritis, Infections in Immuno-compromised Hosts, Infection Associated with Medical Devices, Animal and Human Bites.

Gram-Positive Bacterial Infections

Staphylococcal Infections, Streptococcus pneumoniae (Pneumococcus) Infection, Group A Streptococcus Infection, Group B Streptococcus Infection.

Gram-Negative Bacterial Infections

Neisseria meningitidis (Meningococcus) Infection, Neisseria gonorrhoeae (Gonococcus) Infection, Haemophilus influenzae Infection, Pertussis



(*Bordetella pertussis* and *B. parapertussis*), *Salmonella*, *Shigella*
Escherichia coli Infection, *Pseudomonas* Infection,

Anaerobic Bacterial Infections

Botulism, Tetanus.

Mycobacterial Infections

Tuberculosis.

Spirochetal Infections

Syphilis (*Treponema pallidum*),

Lyme disease (*Borrelia burgdorferi*),

Mycoplasmal Infections

Mycoplasma pneumoniae Infection, Chlamydial Infections, *Chlamydia pneumoniae* Infection.

Rickettsial Infections

Spotted Fever Group (Rickettsioses)

Mycotic Infections

Candida Infection

Viral Infections

Measles, Rubella,

Mumps, Enterovirus

Infection, Herpes Simplex Virus

Infection, Varicella-Zoster Virus Infection, Epstein - Barr virus Infection,

Roseola (Human Herpesvirus Types 6 and 7), Respiratory Syncytial Virus

Infection, Adenovirus Infection, Rotavirus and Other Agents of Viral

Gastroenteritis, Acquired Immunodeficiency Syndrome (Human

Immunodeficiency Virus Infection)



Protozoan Diseases

Giardiasis, Tricbomoniasis, Malaria (Plasmodium), Toxoplasmosis (Toxoplasma gondii),

Helminthic Diseases

Ascariasis (Ascaris lumbricoides), Enterobiasis (Pinworm; Enterobius Vermicularis),

Preventive Measures

Immunization and vaccination Practices

The Digestive System

Clinical Manifestations of Gastrointestinal Disease

Normal Digestive Tract Phenomena, Major Symptoms and Signs of Digestive Tract Disorders,

The Oral Cavity

Malocclusion, Cleft Lip and Palate, Dental Caries,

Peritoneum

Peritonitis, Diaphragmatic hernia

The Esophagus

Atresia and Tracheoesophageal Fistula, Gastroesophageal Reflux, achalasia

Stomach and Intestines

Pyloric Stenosis and Other Congenital Anomalies of the Stomach, Intestinal Atresia, Stenosis, and Malrotation, Mottity Disorders and Hirschsprung Disease, Ileus, Adhesions, Intussusception, and Closed-Loop Obstructions, Anorectal Malformations, Ulcer Disease



,Inflammatory Bowel Disease, Malabsorptive Disorders, Acute Appendicitis, Inguinal Hernias .

Exocrine Pancreas

Pancreatitis.

The liver and Biliary System

Cholestasis, Metabolic Diseases of the Liver, Autoimmune (Chronic) Hepatitis, Drug- and Toxin-Induced Liver Injury, Fulminant Hepatic Failure, Portal Hypertension and Varices, cirrhosis, metabolic liver disease, mitochondrial hepatopathies, disease of biliary system, liver transplantation.

The Respiratory System

Development and Function

Respiratory pathophysiology

Upper Respiratory Tract

Congenital Disorder of the Nose Acquired Disorders of the Nose, Infections of the Upper Respiratory Tract, Tonsils and Adenoids, Obstructive Sleep Apnea and Hypoventilation in Children, FB, Neoplasm, polyps

Lower Respiratory Tract

Acute Inflammatory Upper Airway Obstruction, Foreign Bodies in the Larynx, Trachea, and Bronchi, Bronchitis, Bronchiolitis, Aspiration Pneumonias and Gastro-esophageal Reflux-Related Respiratory Disease, : Hypersensitivity to Inhaled Materials, Pulmonary Hemosiderosis (Pulmonary Hemorrhage), Atelectasis, Chronic or Recurrent Respiratory Symptoms, Cystic Fibrosis,



Disease of the Pleura: Pneumothorax, effusion, tumors

Pulmonary system in systemic disease

Respiratory failure.

The Cardiovascular System

Developmental Biology of the Cardiovascular System

Cardiac Development and the Transition from Fetal to Neonatal

Circulations.

Evaluation of the Cardiovascular System

History and Physical Examination and Laboratory Evaluation,

Congenital Heart Disease

Evaluation of the Infant or Child with Congenital Heart Disease, General

Principles of Treatment of Congenital Heart Disease,

Cardiac Arrhythmias

Disturbances of Rate and Rhythm of the Heart,

Acquired Heart Disease

Infective Endocarditis, Rheumatic Heart Disease,

Disease of the Myocardium and Pericardium

Disease of the Myocardium,

Cardiac Therapeutics

Heart Failure,

Disease of the Peripheral Vascular System

Systemic Hypertension.

Disease of the Blood

The Hematopoietic System



Anemias of Inadequate Production

Physiologic Anemia of Infancy, Megaloblastic Anemias, Iron Deficiency Anemia,

Definitions and Classifications of Hemolytic Anemias, Hereditary

Spherocytosis, Hemoglobin Disorders,

Polycythemia (Erythrocytosis)

Secondary Polycythemia,

The Pancytopenias: the Constitutional Pancytopenias, the Acquired Pancytopenias,

Hemorrhagic and Thrombotic Diseases

Hemostasis, Hereditary Clotting Factor Deficiencies (Bleeding

Disorders), von Willebrand Disease, Hereditary Predisposition to

Thrombosis , Disseminated Intravascular Coagulation (Consumptive Coagulopathy) Disorders of the Platelets and the Blood Vessels.

The Spleen and Lymphatic System

Splenomegaly, Lymphadenopathy,

Neoplastic Disease and Tumors

Principles of diagnosis, Principles of treatment, the Leukemias, Lymphoma,

Neuroblastoma, Neoplasms of the Kidney.

Nephrology

Glomerular Disease: Introduction to Glomerular Diseases,

Conditions Particularly Associated with Hematuria

Clinical Evaluation of the Child with Hematuria, Recurrent Gross

Hematuria, Gross Microscopic Hematuria, Hemolytic-Uremic Syndrome,



Conditions Particularly Associated with Proteinuria

Non pathologic Proteinuria, Pathologic Proteinuria, Nephrotic Syndrome,
Tubular Disorders, Renal Tubular Acidosis,
Toxic Nephropathies—Renal Failure
Urologic Disorders in Infants and Children
Urinary Tract Infections, Vesicoureteral Reflux, Voiding Dysfunction,
Anomalies of the Penis and Urethra, Disorders and Anomalies of the
Scrotal Contents,

The Endocrine System

Disorders of the Hypothalamus and Pituitary Gland
Hypopituitarism, Diabetes Insipidus, Disorders of Pubertal Development,
Disorders of the Thyroid Gland
Hypothyroidism, Thyroiditis, Goiter, Hyperthyroidism,
Disorders of the Parathyroid Glands
Hypo-parathyroidism, Hyperparathyroidism,
Disorders of the Adrenal Glands
Adreno cortical Insufficiency, Adrenal Disorders and Genital
Abnormalities,
Disorders of the Gonads: Hypofunction of the Testes, Hypofunction of
the Ovaries,
Diabetes Mellitus in Children

The Nervous System

Congenital Anomalies of the Central Nervous System, Seizures in Childhood,
Headaches, Movement Disorders, Encephalopathies, Neurodegenerative
Disorders of Childhood, Brain Tumors in Children,
Neuromuscular Disorders



Evaluation and Investigation, Developmental Disorders of Muscle, Muscular Dystrophies, Guillian-Barre Syndrome

Neuropathies

Psychological Disorders

Psychiatric Considerations of Central Nervous System Injury, Psychosomatic Illness, Vegetative Disorders, Habit Disorders, Anxiety Disorders, Mood Disorders, Suicide and Attempted Suicide, Disruptive Behavioral Disorders, Sexual Behavior and Its Variations, Pervasive Developmental Disorders and Childhood Psychosis, Psychologic Treatment of Children and Adolescents, Neuro-developmental Dysfunction in the School-Aged Child

Social Issues

Adoption, Foster Care, Child Care, Separation and Death, Impact of Violence on Children, Abuse and Neglect of Children

Children with Special Health Needs

Failure to Thrive, Developmental Disabilities and Chronic Illness: An Overview, Pediatric Palliative Care: The Care of Children with Life-Limiting Illness, Children at Special Risk.

Disorders of the Eye

Disorders of the Eye Movement and Alignment, Disorders of the Lacrimal System, Disorders of the Conjunctiva, Disorders of the Retina and Vitreous, The Ear

Hearing Loss, Disease of the External Ear, Otitis Media and Its Complications.



The Skin: Eczema, Coetaneous Bacterial Infections, Acne.

Bone and Joint Disorders

Evaluation of the Child, the Knee, the Hip, the Spine, the Neck,

Management of Musculoskeletal Injury, Head and Neck Injuries,

Skeletal Dysplasia: General Considerations in Disorders of Skeletal Development.

Unclassified Diseases: Sudden Infant Death Syndrome.

Environmental Health Hazards

Lead Poisoning, Poisonings: Drugs, Chemicals, and Plants.

III.B) Tutorial / Small Group Discussions

- 1- Clinical rounds
- 2- Clinical grand conference

III.C) PRACTICAL CLASSES:

1. Clinical conferences
2. Demonstrated and Supervised Procedures
3. Supervised outpatient and inpatient care

4- Teaching and learning methods:

METHODS USED:

1. Lectures
2. Small group discussions
3. Training Workshops
4. Clinical conferences
5. Seminars, scientific conferences and symposiums

TEACHING PLAN:

Lectures:

2times/week, Time from 10 to 12.

Tutorials: Division of students into 2 groups

**Practical classes****Time plan:**

Item	Time schedule	Teaching hours	Total hours
Lectures	<u>2</u> times/week; two hour each	4h	4x 72 wks= 288 hrs
Practical	<u>4</u> hours / week	4	4x 72= 288 hrs
Tutorial	<u>1.5</u> hours / week	1.5	1.5 x 72 = 108 hrs
Seminars	1/w	For 21 w	21hrs
Thesis			15 credit hrs
Total		9.5 hours/week	705hs

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge, understanding and intellectual skills 2.1.1:8 2.2.1:9
Oral examination	To assess knowledge and understanding ,intellectual ,general and transferable skills2..1.1:8 2.2.1:9 --2.4.1:2.4.5
Clinical and Practical examination	To asses clinical skills ,general and transferable skills2.3.1:11 2.4.1:5

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Final written exam	At end of 72w



2- Final clinical exam	73
3- Thesis dissertation submission	74-96

5-D) Weighting System:

examination	Marks allocated	% of Total Marks
2- Final exam: a- Written Pediatrics Written child health and neonatal care + commentary	250	46%
b- Practical clinical pediatrics(long+2short)	200	36%
c- Oral Pediatrics	100	18%
Total	550	100%

- The minimum passing & Passing grades (Faculty bylaws).
(60% for written and 60% for clinical and oral and for overall)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
1- First half	Objectively structured questions
2- Final exam: a- Written	a- Problem solving, case studies, MCQs and Short essay questions
b- Practical,	b. i -Do clinical examination for 3short and one long



(clinical)	cases
c- Oral	b- ii - Identify the clinical diagnostics in clinical pediatrics (X-ray and lab spots) c-- discuss with candidate their knowledge in clinical pediatric topics, child health topics and neonatal care issues, and in basic and clinical applied genetics through 4 oral sessions
3- Assignments & other activities	Assignments through online e learning Complete log practical books for training, procedures and scientific activities Complete research work

6- List of references:

6.1- Essential books (text books):

6.1-1 - Nelson Textbook of Pediatrics; Behrman RE, Kliegman RM, Jenon, HB; Elsevier Science; 19^h edition, 2011

6-1-2 Forfar & Arneill's Textbook of Pediatrics :McIntosh, N., Helms, P., Smyth, R. and Logan, S. (eds.). 7th edition, Churchill Livingstone, Edinburgh, 2008. ISBN 978-0443103964

6.1.3 Pediatric clinics of North America, Each bimonthly issue .

Elsevier

6.1.4. Recent advances in pediatrics. Elsevier

ISBN: 9789380704005

6.2- Recommended books:

6-2-1 MRCPCH Master Course in Child Health by Malcolm

Levene

6-2-2 Internet resources



6.3- Periodicals, Web sites, ... etc:

MD Consult, e medicine Medscape.....

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- 4 Lecture rooms in pediatric department
- Small group classes in clinical wards and staff rooms
- Laboratory in academic building
- Information technology / AV aids in computer lab unit in department and faculty

Course coordinator:

Prof. Iman Abdelrehim

Head of dept: Prof. Mohamed ElBakry

Updated 7/6/2013



الملحقات

ملحق ١: Academic standard of the program

ملحق ٢: المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة.

ملحق 3: Benchmarks (المعايير المرجعية الخارجية)

ملحق 4: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة.

ملحق ٥: مصفوفة البرنامج مع المعايير الأكاديمية للبرنامج.

ملحق ٦: مصفوفة مضاهاة لمقررات البرنامج الدراسي لدكتوراة في طب الأطفال مع نواتج التعلم



ملحق ١: Academic standard of the program:

جامعه بنها
كلية طب بنها
قسم طب الاطفال

وثيقة المعايير الأكاديمية المرجعية لبرنامج الدكتوراة في طب الأطفال

**Academic standards reference for
Pediatrics Doctorate program**

1- Graduate Attributes:-

By the end of MD program, the candidate should be able to do the following:

- 1-1 Master the basics and methodologies for scientific research in the sciences related to Pediatrics
- 1-2 Continue work for addition of knowledge in the field of Pediatrics, neonatology and other branches related to pediatrics
- 1-3 Application of analytical and critical approach to knowledge in the field of Pediatrics and related areas
- 1-٤ Integrate knowledge of Pediatrics with other related knowledge to develop inter-relationships between them.
- 1-5 know ongoing problems and new theories in the field of Pediatrics.
- 1-6 Identify problems in Pediatrics and find innovative solutions
- 1-7 Perform perfectly wide range of professional skills in Pediatrics.
- 1-8 Orientated towards the development of methods and tools of practice for Pediatrics medicine.
- 1-9 Use of appropriate technological means to serve practice of pediatric patients



- 1-10 Communicate effectively and lead the medical team in professional contexts serve Pediatric
- 1-11 Adopt the necessary resolution in speed of information's available to benefit pediatrics patients'
- 1-12 Employment of available resources efficiently and work on a new novel for resources for professional practice
- 1-13 Awareness of his role in the development of society and the preservation of the environment, by learned information in Pediatrics
- 1-14 Act to reflect commitment to integrity, credibility and ethics to promote Pediatric
- 1-15 Commitment to ongoing personal development and transfer of knowledge and experience to others to maintain the development of Pediatrics practice and branches
- 1-16 identify a relevant research question, formulate hypothesis, determine the most suitable study design, analyze and interpret research data.
- 1.17 writes a research paper.

General Standards:

2.1 knowledge and understanding:

By the end of MD program, the graduate should recognize and understand the followings:

- 2-1-1 Theories and fundamentals and modern knowledge in the field of Pediatrics and related areas
- 2-1-2 The basics and methodologies and ethics of scientific research tools and that will serve the development of Pediatrics
- 2-1-3 The ethical and legal principles for professional practice in a Pediatrics
- 2-1-4 the principles and fundamentals of quality practice in Pediatrics and its branches
- 2-1-5 knowledge of effects of professional pediatrics practice and methods of environmental development and maintenance-
- 2-1-6 impact of medicine practice on the environment and work to preserve the environment and maintenance
- 2-1-7 Differentiate between pediatric diseases and prescribe effective treatment for it.

2.2 Intellectual skills:



By the end of MD program, the graduate should be able to recognize the followings:

2-2-1 Analyzes and evaluates information in the field of Pediatrics and measuring them and elicitation of them in professional practice.

2-2-2 Solve specialized problems in Pediatrics on the basis of the data available

2-2-3 Make research studies add knowledge and help in development of Pediatric field.

2.2.4 Formulation of scientific papers in various areas of Pediatrics

2-2-5- Evaluation of risk factors in different Pediatrics practice and procedure.

2-2-6 layout to improve performance in different branches of Pediatrics

2-2-7 Arrange for proper decision in various professional Pediatrics serving areas.

2-2-8 innovates with creativity to develop Pediatrics and its branches

2-2-9 Arrange evidence based benefits from different experiences in Pediatrics.

2-3 Practical/Professional skills

By the end of MD program, graduate should accept the following skills:

2-3-1 Do professionally basic skills and modern techniques in Pediatrics medicine.

2-3-2 Written professional reports for Pediatrics

2-3-3 Development of assessment methods and tools in the areas of Pediatrics

.

2-3-4-Design treatment plans for different patients

2-3-5 Application of basic skills for children in intensive care and emergency rooms

2-3-6 Using technology to serve the professional practice in all branches of Pediatrics

2-3-7 planning for the development of the professional practice and performance with regard to various areas of Pediatrics

2.4 General and transferable skills:



By the end of MD program, graduate should accept the following skills:

2-4-1 effective communication with various types of service areas of Pediatrics

2.4.2 Use of information technology and updating methods in learning to serve the development of professional practice in Pediatrics

2-4-3 Teaching others and assess their performance in Pediatrics and its branches to see the strengths and weakness.

2-4-4 Self assessment for the development of all areas of Pediatrics, and know the strengths and weakness.

2-4-5 Using various sources of information and knowledge serve Pediatric

2-4-6 Work in team and leading teams to promote methods of practice in Pediatrics

2-4-7 To manage scientific meeting and time to collect different experiences in pediatrics and its branches.

2-4-8 Search for all new and learning for continuous advancement in Pediatrics.

اعتماد مجلس القسم ، بتاريخ 7./6...../2013.....

اعتماد مجلس الكلية

رئيس مجلس القسم

د. محمد البكري



**ملحق ٢: المعايير القياسية العامة
برامج الدكتوراة**

١- مواصفات الخريج :

- خريج برنامج الدكتوراة فى اى تخصص يجب ان يكون قادرا على
- ١-١ اتقان اساسيات ومنهجيات البحث العلمى
 - ٢-١ العمل المستمر على الاضافة للمعارف فى مجال التخصص
 - ٣-١ تطبيق المنهج التحليلى والناقد للمعارف فى مجال التخصص والمجالات ذات العلاقة
 - ٤-١ دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا ومطورا للعلاقات البينية بينها
 - ٥-١ اظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة فى مجال التخصص
 - ٦-١ تحديد المشكلات المهنية وايجاد حلولاً مبتكرة لحلها
 - ٧-١ اتقان نطاقا واسعا من المهارات المهنية فى مجال التخصص
 - ٨-١ التوجه نحو تطوير طرق وادوات واساليب جديدة للمزاولة المهنية
 - ٩-١ استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسة المهنة
 - ١٠-١ التواصل بفاعلية وقيادة فريق عمل فى سياقات مهنية مختلفة
 - ١١-١ اتخاذ القرار فى ضل المعلومات المتاحة
 - ١٢-١ توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على ايجاد موارد جديدة
 - ١٣-١ الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة
 - ١٤-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة
 - ١٥-١ الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للاخرين

٢- المعايير القياسية

- ١-٢ المعرفة والفهم
بانتهاج دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على الفهم والدراسة بكل من
- ١-٢-١ النظريات والاساسيات والحديث من المعارف فى مجال التخصص والمجالات ذات العلاقة
 - ٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمى وادواته المختلفة



- ٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص
٤-١-٢ مبادئ واساسيات الجودة في الممارسة في مجال التخصص
٥-١-٢ المعارف المتعلقة بأثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها

٢-٢ المهارات الذهنية

- بانتهاء دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على
١-٢-٢ تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها
٢-٢-٢ حل المشاكل المتخصصة استنادا على المعطيات المتاحة
٣-٢-٢ اجراء دراسات بحثية تضيف الى المعارف
٤-٢-٢ صياغة أوراق علمية
٥-٢-٢ تقييم المخاطر في الممارسات المهنية
٦-٢-٢ التخطيط لتطوير الاداء في مجال التخصص
٧-٢-٢ اتخاذ القرارات المهنية في سياقات مهنية مختلفة
٨-٢-٢ الابتكار/الابداع
٩-٢-٢ الحوار والنقاش المبني على البراهين والادلة

٣-٢ المهارات المهنية

- بانتهاء دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على
١-٣-٢ اتقان المهارات المهنية الاساسية والحديثة في مجال التخصص
٢-٣-٢ كتابة وتقييم التقارير المهنية
٣-٣-٢ تقييم وتطوير الطرق والادوات القائمة في مجال التخصص
٤-٣-٢ استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
٥-٣-٢ التخطيط لتطوير الممارسة المهنية وتنمية اداء الاخرين

٤-٢ المهارات العامة والمنتقلة

- بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على
١-٤-٢ التواصل الفعال بأنواعه المختلفة
٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية
٣-٤-٢ تعليم الاخرين وتقييم ادائهم
٤-٤-٢ التقييم الذاتي والتعليم المستمر
٥-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف
٦-٤-٢ العمل في فريق وقيادة فرق العمل
٧-٤-٢ ادارة اللقاءات العلمية والقدرة على ادارة الوقت



ملحق ٣ : Benchmarks (المعايير المرجعية الخارجية)

All Indian Institute for Medical Sciences, New Delhi
(aiims).<http://www.aiims.edu>

1. GOAL

The goal of MD course in Pediatrics is to produce a competent pediatrician who:

- (i) recognizes the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of National Health Policy and professional ethics;
- (ii) has acquired the competencies pertaining to pediatrics that are required to be practiced in the community and at all levels of health care system;
- (iii) has acquired skills in effectively communicating with the child, family and the community;
- (iv) is aware of the contemporary advances and developments in medical sciences as related to child health;
- (v) is oriented to principles of research methodology; and
- (vi) has acquired skills in educating medical and paramedical professionals.

2. OBJECTIVES

At the end of the MD course in Pediatrics, the student should be able to:

- (i) recognize the key importance of child health in the context of the health priority of the country;
- (ii) practice the specialty of Pediatrics in keeping with the principles of professional ethics;
- (iii) identify social, economic, environmental, biological and emotional determinants of child and adolescent health, rehabilitative, preventive and promotive measures to provide holistic care to children;
- (iv) recognize the importance of growth and development as the foundation of Pediatrics; and help each child realize her/his optimal potential in this regard;
- (v) take detailed history, perform full physical examination including neuro-development and behavioral assessment and anthropometric measurements of the child and make clinical diagnosis;
- (vi) perform relevant investigative and therapeutic procedures for the pediatric patient;
- (vii) interpret important imaging and laboratory results;

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- (viii) diagnose illness in children based on the analysis of history, physical examination and investigative



- work up;
- (ix) plan and deliver comprehensive treatment for illness in children using principles of rational drug therapy;
 - (x) plan and advise measures for the prevention of childhood disease and disability;
 - (xi) plan rehabilitation of children suffering from chronic illness and handicap, and those with special needs;
 - (xii) manage childhood emergencies efficiently;
 - (xiii) provide comprehensive care to normal, 'at risk' and sick neonates;
 - (xiv) recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them;
 - (xv) demonstrate empathy and humane approach towards patients and their families and respect their sensibilities;
 - (xvi) demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities;
 - (xvii) develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence based pediatrics;
 - (xviii) demonstrate competence in basic concepts of research methodology and epidemiology;
 - (xix) facilitate learning of medical/nursing students, practicing physicians, para-medical health workers and other providers as a teacher-trainer;
 - (xx) play the assigned role in the implementation of national health programs, effectively and responsibly;
 - (xxi) organize and supervise the desired managerial and leadership skills;
 - (xxii) function as a productive member of a team engaged in health care, research and education.

3. SYLLABUS

General Guidelines – during the training period effort must always be made that adequate time is spent

in discussing child health problems of public health importance in the country or a particular region.

3.1 Topics

3.1.1 Growth and development:

- _ principles of growth and development _ normal growth and development,
- _ normal growth and development in _ sexual maturation and its disturbances
- childhood and adolescence _ failure to thrive and short stature.
- _ normal newborn

3.1.2 Neonatology :

- _ perinatal care _ low birth weight
- _ care in the labor room and resuscitation _ newborn feeding
- _ prematurity _ respiratory distress
- _ common transient phenomena _ apnea

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- _ infections _ anemia and bleeding disorders
- _ jaundice _ gastrointestinal disorders
- _ neurologic disorders _ malformations
- _ renal disorders _ understanding of perinatal medicine
- _ thermoregulation and its disorders

3.1.3 Nutrition :

- _ maternal nutritional disorders; _ nutrition for the low birth weight
- impact on fetal outcome _ breast feeding
- _ infant feeding including _ vitamin and mineral deficiencies
- complementary feeding
- _ protein energy malnutrition _ obesity
- _ adolescent nutrition _ parenteral and enteral nutrition in



_ nutritional management of systemic neonates and children illness (celiac disease, hepatobiliary disorders, nephrotic syndrome)

3.1.4 Cardiovascular :

_ congenital heart diseases _ rheumatic fever and rheumatic heart (cyanotic and acyanotic) disease
_ infective endocarditis _ arrhythmia
_ disease of myocardium _ diseases of pericardium (cardiomyopathy, myocarditis) _ systemic hypertension
_ hyperlipidemia in children

3.1.5 Respiratory :

_ congenital and acquired disorders of nose _ infections of upper respiratory tract
_ tonsils and adenoids _ obstructive sleep apnea
_ congenital anomalies of lower respiratory tract _ acute inflammatory upper airway
_ foreign body in larynx trachea & bronchus obstruction
_ trauma to larynx _ subglottic stenosis (acute and
_ neoplasm of larynx and trachea chronic)
_ bronchitis _ bronchiolitis
_ aspiration pneumonia _ GER
_ acute pneumonia _ recurrent and interstitial
_ suppurative lung disease pneumonia
_ atelectasis _ lung cysts
_ emphysema and hyper-inflation _ bronchial asthma
_ pulmonary edema _ bronchiectasis

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_ pleural effusion _ pulmonary leaks
_ mediastinal mass

3.1.6 Gastrointestinal and liver disease :

_ disease of mouth _ oral cavity and tongue
_ disorders of deglutition and esophagus _ peptic ulcer disease
_ H. pylori infection _ foreign body
_ congenital pyloric stenosis _ intestinal obstruction
_ malabsorption syndrome _ acute and chronic diarrhea
_ irritable bowel syndrome _ ulcerative colitis
_ hirschsprung's disease _ anorectal malformations
_ hepatitis _ hepatic failure
_ chronic liver disease _ Wilson's disease
_ Budd-Chiari syndrome _ metabolic diseases of liver
_ cirrhosis and portal hypertension

3.1.7 Nephrologic & Urologic disorders :

_ acute and chronic glomerulonephritis _ nephrotic syndrome
_ hemolytic uremic syndrome _ urinary tract infection
_ VUR and renal scarring _ renal involvement in systemic
_ renal tubular disorders diseases
_ congenital and hereditary renal disorders _ renal and bladder stones
_ posterior urethral valves _ hydronephrosis, voiding dysfunction
_ undescended testis _ Wilm's tumor

3.1.8 Neurologic disorders :

_ seizure and non-seizure paroxysmal events _ epilepsy and epileptic syndromes
_ meningitis of childhood
_ brain abscess _ coma
_ acute encephalitis and febrile encephalopathies _ Guillain-Barre syndrome
_ neurocysticercosis and other neuroinfestations _ HIV encephalopathy



- _ SSPE _ cerebral palsy
- _ neurometabolic disorders _ neurodegenerative disorders
- _ neuromuscular disorders _ mental retardation
- _ learning disabilities _ muscular dystrophies
- _ acute flaccid paralysis and AFP surveillance _ ataxia
- _ movement disorders of childhood _ CNS tumors
- _ malformations

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3.1.9 Hematology & Oncology :

- _ deficiency anemias _ hemolytic anemias
- _ aplastic anemia _ pancytopenia, disorders of
- _ thrombocytopenia hemostasis
- _ blood component therapy _ transfusion related infections
- _ bone marrow transplant/stem cell transplant _ acute and chronic leukemia
- _ myelodysplastic syndrome _ Hodgkin disease
- _ non-Hodgkin's lymphoma _ neuroblastoma
- _ hypercoagulable states

3.1.10 Endocrinology :

- _ hypopituitarism/hyperpituitarism _ diabetes insipidus
- _ pubertal disorders _ hypo- and hyper-thyroidism
- _ adrenal insufficiency _ Cushing's syndrome
- _ adrenogenital syndromes _ diabetes mellitus
- _ hypoglycemia _ short stature
- _ gonadal dysfunction and intersexuality _ obesity

3.1.11 Infections :

- _ bacterial _ viral
- _ fungal _ parasitic
- _ rickettsial _ mycoplasma
- _ protozoal infection _ tuberculosis
- _ protozoal and parasitic _ nosocomial infections
- _ HIV _ monitoring for nosocomial infections
- _ control of epidemics and infection prevention _ safe disposal of infective material

3.1.12 Emergency & Critical care :

- _ emergency care of shock _ cardio-respiratory arrest
- _ respiratory failure _ acute renal failure
- _ status epilepticus _ acute severe asthma
- _ fluid and electrolyte disturbances and its therapy _ acid-base disturbances
- _ poisoning _ accidents
- _ scorpion and snake bites

3.1.13 Immunology & Rheumatology :

- _ arthritis (acute and chronic) _ connective tissue disorders
- _ T and B cell disorders _ immuno-deficiency syndromes

3.1.14 ENT :

- _ acute and chronic otitis media _ conductive/sensorineural hearing
- _ post-diphtheritic palatal palsy loss

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- _ acute/chronic tonsillitis/adenoids _ allergic rhinitis/sinusitis
- _ foreign body

3.1.15 Skin Diseases :

- _ exanthematous illnesses _ vascular lesions
- _ pigment disorders _ vesicobullous disorders
- _ infections: pyogenic _ fungal and parasitic
- _ Steven-Johnson syndrome _ eczema



- _ seborrheic dermatitis _ drug rash
- _ urticaria _ alopecia
- _ ichthyosis

3.1.16 Eye problems :

- _ refraction and accommodation _ partial/total loss of vision cataract
- _ night blindness _ chorioretinitis
- _ strabismus _ conjunctival and corneal disorders
- _ retinopathy of prematurity _ retinoblastoma
- _ optic atrophy _ pilledema

3.1.17 Behavioral & Developmental disorders :

- _ rumination _ pica
- _ enuresis _ encopresis
- _ sleep disorders _ habit disorders
- _ breath holding spells _ anxiety disorders
- _ mood disorders _ temper tantrums
- _ attention deficit hyperactivity disorders _ autism

3.1.18 Social pediatrics :

- _ national health programs related to child health _ child abuse and neglect
- _ child labor _ adoption
- _ disability and rehabilitation _ rights of the child
- _ national policy of child health and population _ juvenile delinquency

3.1.19 Genetics :

- _ principles of inheritance _ pedigree drawing
- _ chromosomal disorders _ single gene disorders
- _ multifactorial/polygenic disorders _ genetic diagnosis
- _ prenatal diagnosis

3.1.20 Orthopedics :

- _ major congenital orthopedic deformities _ bone and joint infections: pyogenic
- _ tubercular _ common bone tumors

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3.2 Approach to Important Clinical Problems

3.2.1 Growth and development :

- _ precocious and delayed puberty _ developmental delay
- _ impaired learning

3.2.2 Neonatology :

- _ normal newborn _ low birth weight newborn
- _ sick newborn

3.2.3 Nutrition :

- _ lactation management and complementary _ protein energy malnutrition feeding (underweight, wasting, stunting)
- _ failure to thrive and micronutrient deficiencies

3.2.4 Cardiovascular :

- _ murmur _ cyanosis
- _ congestive heart failure _ systemic hypertension
- _ arrhythmia _ shock

3.2.5 GIT and liver :

- _ Acute diarrhea _ persistent and chronic diarrhea
- _ abdominal pain and distension _ ascites
- _ vomiting _ constipation
- _ gastrointestinal bleeding _ jaundice
- _ hepatosplenomegaly _ hepatic failure and encephalopathy

3.2.6 Respiratory :

- _ Cough/chronic cough _ noisy breathing



- _ wheezy child _ respiratory distress
- _ hemoptysis
- 3.2.7 Infections :**
- _ acute onset pyrexia _ prolonged pyrexia with and
- _ recurrent infections _ without localizing signs
- _ nosocomial infections

- 3.2.8 Renal :**
- _ Hematuria/dysuria _ bladder/bowel incontinence
- _ voiding dysfunctions _ renal failure (acute and chronic)

- 3.2.9 Hematology :**
- _ lymphadenopathy _ anemia
- _ bleeding

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- 3.2.10 Neurology :**
- _ limping child _ convulsions
- _ abnormality of gait _ paraplegia, quadriplegia
- _ macrocephaly & microcephaly _ floppy infant
- _ acute flaccid paralysis _ cerebral palsy and other
- _ headache neuromotor disability

- 3.2.11 Endocrine :**
- _ thyroid swelling _ ambiguous genitalia
- _ obesity _ short stature
- _ precocious & delayed puberty

- 3.2.12 Skin/Eye/ENT :**
- _ skin rash _ pigmentary lesions
- _ pain/discharge from ear _ hearing loss
- _ epistaxis _ refractory errors
- _ blindness _ cataract
- _ eye discharge _ redness
- _ squint _ proptosis

- 3.2.13 Miscellaneous :**
- _ habit disorders _ hyperactivity and attention deficit
- _ arthralgia syndrome
- _ arthritis _ multiple congenital anomalies

3.3 Skills

- 3.3.1 History and examination :**
- _ history taking including psychosocial history _ physical examination including
- _ newborn examination, including gestation fundus examination
- assessment _ assessment of growth
- _ nutritional anthropometry and its assessment _ use of growth chart
- _ SMR rating _ developmental evaluation
- _ full systemic examination _ health functionaries and social
- _ communication with children parents support groups
- _ genetic counseling

3.3.2 Bedside procedures :

Therapeutic skills :

- _ hydrotherapy _ nasogastric feeding
- _ endotracheal intubation _ cardiopulmonary resuscitation
- _ administration of oxygen (pediatric and neonatal)

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- _ venepuncture and establishment of vascular _ administration of fluids, blood
- access blood components
- _ parenteral nutrition _ intraosseous fluid administration



_ intrathecal administration of drugs _ common dressings abscess drainage

Investigative skills :

_ blood sampling – venous and arterial _ lumbar puncture
_ ventricular tap _ bone marrow aspiration and biopsy
_ peritoneal, pericardial and subdural tap _ kidney biopsy
_ liver biopsy _ muscle and nerve biopsy
_ collection of urine for culture, urethral catheterization suprapubic aspiration

Bedside investigations :

_ hemoglobin, TLC, ESR, _ peripheral smear staining and
_ urine: routine and microscopic examination examination
_ stool microscopy including hanging drop _ examination of CSF and other preparation body fluids
_ Gram stain _ ZN stain
_ shake test on gastric aspirate

3.3.3 Interpretation :

_ interpretation of X-rays of chest, abdomen, bone and skull
_ ECG; _ ABG findings; ultrasound and
_ common EEG patterns CT scan
_ audiograms _ ultrasonographic abnormalities and isotope studies

3.4 Understanding of Basic Sciences :

_ embryogenesis of different organ systems especially heart, genitourinary system, gastrointestinal tract
_ applied anatomy of different organs _ functions of kidney, liver, lungs,
_ Physiology of micturition and defecation heart and endocrine glands
_ placental physiology, fetal and neonatal circulation
_ regulation of temperature (especially newborn) _ blood pressure
_ acid base balance _ fluid electrolyte balance
_ calcium metabolism _ vitamins and their functions
_ hematopoiesis, hemostasis _ bilirubin metabolism
_ growth and development at _ puberty and its regulation
_ nutrition _ different ages

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_ normal requirements of various nutrients _ teaching methodology and and
_ principles of basic immunology, bio-statistics clinical epidemiology managerial skills _ microbial agents and their
_ pharmacokinetics of commonly used drugs epidemiology
_ basics of genetics and molecular biology

3.5 Community and Social Pediatrics

_ national health nutrition programs _ nutrition screening of community
_ prevention of blindness _ school health programs
_ prevention of sexually transmitted diseases _ contraception
_ health legislation _ national policy on children
_ adoption _ child labor
_ juvenile delinquency _ government and non-government
_ investigation of adverse events following support services for children immunization in the community
_ general principles of prevention and control of infections including food borne _ waterborne
_ soil born and vector born diseases _ investigation of an outbreak in a community



4. TEACHING PROGRAM

4.1 General Principles

- Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training should be skills oriented.
- Learning in postgraduate program should be essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

4.2 Formal Teaching Sessions

Activity Frequency Preceptor Evaluator

Journal Club Once a week SR & Faculty 2 faculty members other than the Preceptor

Case Discussion

Pediatrics

all JR Once in 15 days Faculty Faculty

Bedside Morning – 4 times Faculty Faculty

a week (Unit) (Unit)

Evening – twice SR SR

a week

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Other Specialties

Hematology Once in 3 weeks Hematology

Faculty

Pediatric Once in 2 weeks Cardiology Faculty Cardiology Faculty

Cardiology

Mortality audit Thrice a month Senior Resident & Faculty

Statistics PICU Once in three month PICU Faculty

Statistics NICU Once a year SR NICU Faculty

Interesting/difficult cases Once a month Faculty

Pediatrics Radiology Once a week SR & Faculty

Conference

Seminar Once a week SR & Faculty 2 Faculty members other than the preceptor

Faculty Lectures

Pediatrics Once a month Faculty

Other specialties

Pediatric Surgery 2 in each semester Peds. Surgery Faculty

Dermatology 2 in each semester Dermatology Faculty

Psychiatry/

Psychology 2 in each year Psychiatry Faculty

Biostatistics 2 in each year Biostatistics Faculty

Communication

Skills 1 in each semester

Ethical & Legal Issues 1 in each year

Departmental Symposium 1 in each semester Resident & Faculty Faculty other than preceptor

4.3 Rotations

Postgraduate student must rotate through all clinical units of the department. This is especially important

for him to get Pediatric subspecialty training.

Neonatology (NICU) - 6 months

Intensive Care (PICU) - 5 months

Each Unit

Unit I - 6-8 months

Subspecialty – Nephrology gastroenterology, hepatology

Unit II - 6-8 months

Neurology, endocrinology, genetics



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- Unit III - 6-8 months

Oncology, pulmonology,
rheumatology & tuberculosis

Pediatric Cardiology - 2 months

(All Units also provide general pediatric care in addition to subspeciality).

PGS should also attend subspeciality clinics during their respective Unit postings.

5. THESIS

5.1 Objectives

By carrying out a research project and presenting his work in the form of thesis, the student will be able

to:

- identify a relevant research question;
- conduct a critical review of literature;
- formulate a hypothesis;
- determine the most suitable study design;
- state the objectives of the study;
- prepare a study protocol;
- undertake a study according to the protocol;
- analyze and interpret research data, and draw conclusions,
- write a research paper.

5.2 Guidelines

While selecting thesis topics, following should be kept in mind :

- the scope of study should be limited so that it is possible to conduct it within the resources and time available to the student;
- the emphasis should be on the process of research rather than the results;
- the protocol, interim progress as well as final presentation must be made formally to the entire department;
- only one student per teacher/thesis guide;
- periodic department review of the thesis work as per following schedule :

- End of 4 months - Submission of protocol
- 6 months prior to examination - Final presentation and submission

6. ASSESSMENT – INTERNAL AND FINAL

6.1 General Principles

- The assessment should be valid, objective, and reliable.
- It must cover cognitive, psychomotor and affective domains.
- Formative, continuing and summative (final) assessment should be conducted in theory as well as practicals/clinicals. In addition, thesis should be assessed separately.

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6.2 Overall Weightage

Internal assessment - 30%

Final summative examination - 70%

6.2.1 Formative assessment

The formative assessment should be continuous as well as end-of-term. The former should be based on the feedback from the senior residents and the unit faculty concerned. End-of-term assessment should be held at the end of each semester (upto the 5th semester). Formative assessment will not count towards pass/fail at the end of the program, but will provide feedback to the candidate.

6.2.2 Internal assessment

Proposed Internal Assessment

*Items Weightage Timing of Evaluators
Assessment*



Pediatrics MD program



1. Personal attributes* 30% At end of each Faculty in-charge and (details) posting Senior Resident
2. Clinical skills and 40% At end of each Faculty in-charge and performance posting Senior Resident
3. Academic activities
 - i. Journal Club, Seminars, 10% Ongoing Faculty preceptor, Case discussion Faculty (Other than preceptor)
 - ii. End of each semester** 10% End semester Faculty Theory exam.
 - iii. End of each semester*** 10% End semester Faculty Practical exam.

*Personal attributes :

- Availability : Punctual, available continuously on duty, responds promptly to calls, takes proper permission for leave.
- Sincerity and motivation : Dependable, honest, admits mistakes, does not falsify information, exhibits good moral values, loyal to institution, has initiative, takes on responsibilities, goes beyond routine work, exhibits keen desire to learn.
- Diligence and performance : Dedicated, hardworking, does not shirk duties, leaves no work pending, competent in clinical case work up and management, skilled in procedures, proficient in record keeping and file work.
- Academic ability : Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- Interpersonal skills : Has compassionate attitude towards patients, gets on well with colleagues and paramedical staff.

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**Syllabus for end semester theory exams :

Semester I. Growth and development, behavioral disorder, nutrition, immunization, infectious disease, biostatistics.

Semester II. Respiratory system, gastroenterology, hepatology and neurology.

Semester III. Neonatology, emergencies, nephrology and endocrinology.

Semester IV. Hematology, hematocology immunology, genetics, behavioral and psychological adolescent health disorders, social and preventive pediatrics and other specialities.

Semester V. Whole syllabus

Theory assessment at the end of each semester will consist of 5 short answer questions.

*** End semester practical exam – one case, Viva, OSCE (Neonatology)

6.2.3 Summative Assessment

- Ratio of marks in theory and practicals will be equal.
- The pass percentage will be 50%.
- Candidate will have to pass theory and practical examinations separately.

Theory :

Paper 1 : Basic sciences as applied to pediatrics 25%

Paper 2 : Neonatology and community pediatrics 25%

Paper 3 : General pediatrics including advances in pediatrics relating to Cluster I specialities* 25%

Paper 4 : General pediatrics including advances in pediatrics relating to Cluster II specialities** 25%

*Cluster I – Nutrition, growth and development, immunization, infectious disease, genetics, immunology,

rheumatology, psychiatry and behavioral sciences, skin, eye, ENT, adolescent health, critical care, accidents and poisoning.

**Cluster II – Neurology and disabilities, nephrology, hematology, oncology, endocrinology, gastroenterology, hepatology, respiratory and cardiovascular disorders.



In each paper there should be 10 short essay questions (SEQ).

Practicals :

Two external and two internal examiners should conduct the examinations :

- 3 cases semi long 20% each (total 60%)

- OSCE (Neonatology) 20%

- Viva 20% nagar S. Guidelines for management of diarrhea in children. Ministry of Health,

GOI and WHO/SEARO, 2000

ملحق 4 مضاهاة المعايير القومية الأكاديمية القياسية العامة الصادرة عن الهيئة مع المعايير الأكاديمية لبرنامج الدكتوراه في طب الأطفال

مواصفات الخريج:

مواصفات الخريج في برنامج الدكتوراه في طب الأطفال	مواصفات الخريج في المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الدكتوراه)
1-1 Master the basics and methodologies for scientific research, in the science related pediatrics	١-١ اتقان اليات و منهجيات البحث العلمي
1.2 Continue work for addition of knowledge in the field of Pediatrics, neonatology and other branches related to pediatrics	١-٢ العمل المستمر على الإضافة للمعارف في مجال التخصص
1-3 Application of analytical and critic approach to knowledge in the field of pediatrics and related areas	١-٣ تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص والمجالات ذات العلاقة
Integrate knowledge of Pediatrics with other related knowledge to develop inter-relationships between them.	١-٤ دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطاً ومطوراً للعلاقات البينية بينها
1-5 know of the current problems and new theories in the field of Pediatrics a	١-٥ اظهار وعيا عميقا بالمشاكل الجارية والنظريات الجديدة في مجال التخصص



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1-6 Identify problems in Pediatrics and find innovative solutions	٦-١ تحديد المشكلات المهنية وايجاد حلول مبتكرة لحلها
1-7 perfectly perfectly wide range of professional skills in Pediatrics	٧-١ اتقان نطاقا واسعا من المهارات المهنية فى مجال التخصص
1-8 Orientated towards the development of methods and tools of practice for Pediatrics medicine	٨-١ التوجه نحو تطوير طرق وادوات واساليب جديدة للمزاولة المهنية
1.9 Use of appropriate technological means to serve practice of pediatric patients	٩-١ استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
1-10 communicating effectively and lead the team in professional contexts serve Pediatric	١٠-١ التواصل بفاعلية وقيادة فريق عمل فى سياقات مهنية مختلفة
1-11 Adopt the necessary resolution in speed of information available to benefit of pediatrics patients	١١-١ اتخاذ القرار فى ضل المعلومات المتاحة
1-12 Employment of available resources efficiently and work on a new novel for resources for professional practice	١٢-١ توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على ايجاد موارد جديدة
1-13 Awareness of his role in the development of society and the preservation of the environment, by learned information in Pediatrics	١٣ الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة
1-14 Act to reflect commitment to integrity, credibility and ethics to	١٤-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة



promote Pediatric	
1-15 Commitment to ongoing personal development and transfer of knowledge and experience to others to maintain the development of the practice of Pediatrics and branches	١٥-١ الالتزام بالتنمية الذاتية المستمرة ونقل علمه وخبراته للآخرين
1-16 identify a relevant research question , formulate hypothesis, determine the most suitable study design, analyze and interpret research data.	
1-17 writes a research paper.	

a. knowledge and understanding:

The standards of the MD program In Pediatrics	(ARS) Academic standards General For the postgraduate (doctoral)
By the end of doctoral program <i>In Pediatrics</i> the graduate must be able to Understand: 2-1-1 Theories and fundamentals and modern knowledge in the field of Pediatrics and related areas	بانتهاء دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على الفهم والدراية بكل من : ١-١-٢ النظريات والاساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة
2-1-2 the basics and methodologies and ethics of scientific research tools and that will serve the development of Pediatrics	٢-١-٢ اساسيات ومنهجيات واخلاقيات البحث العلمى وادواته المختلفة
2-1-3 the ethical and legal principles for professional practice in a Pediatrics	٣-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص



2-1-4 the principles and fundamentals of quality practice in Pediatrics and its branches	٤-١-٢ مبادئ واساسيات الجودة فى الممارسة فى مجال التخصص
2-1-5 knowledge of effects of professional pediatrics practice and methods of environmental development and maintenance	٥-١-٢ المعارف المتعلقة بأثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها

b. Intellectual Skills:

Academic standards of MD program in pediatrics	(ARS) National academic standards for postgraduate program (MD)
By the end of the study, Doctoral program the graduate must be able to: 2-2-1 analyzes and evaluates information in the field of Pediatrics and measuring them and elicitation of them in professional practice.	بانتهاج دراسة برنامج الدكتوراه يجب ان يكون الخريج قادرا على : ١-٢-٢ تحليل وتقييم المعلومات فى مجال التخصص والقياس عليها والاستنباط منها
2-2-2 solving specialized problems in Pediatrics on the basis of the data available	٢-٢-٢ حل المشاكل المتخصصة استنادا على المعطيات المتاحة
2-2-3 Make research studies add to the knowledge and help in development of Pediatric field. 2.2.4 Formulation of scientific papers in various areas of Pediatrics	٣-٢-٢ اجراء دراسات بحثية تضيف الى المعارف ٤-٢-٢ صياغة أوراق علمية
2-2-5- Evaluation of risk factors in different Pediatrics practice and procedure.	٥-٢-٢ تقييم المخاطر فى الممارسات المهنية
2-2-6 layout to improve performance in different branches of Pediatrics	٦-٢-٢ التخطيط لتطوير الاداء فى مجال التخصص



2-2-7 Arrang for proper decision-making in various professional Pediatrics serving areas.	٧-٢-٢ اتخاذ القرارات المهنية في سياقات مهنية مختلفة
2-2-8 innovate with creativity to develop Pediatrics and its branches	
2-2-9 Arrange evidence based benefits from different experiences in Pediatrics.	

c. Professional and clinical Skills:

Academic standards of the program MD In <i>Pediatrics</i>	(ARS) National academic standards for postgraduate program (degree MD.)
At the end of the study programs of Pediatric graduate must be able to: 2-3-1 Do professionally basic skills and modern techniques in Pediatrics medicine	بانتهاء دراسة برنامج الدكتوراة يجب ان يكون الخريج قادرا على ١-٣-٢ اتقان المهارات المهنية الاساسية والحديثة في مجال التخصص
2-3-2 written professional reports for Pediatrics	٢-٣-٢ كتابة وتقييم التقارير المهنية
2-3-3 Development of assessment methods and tools in the areas of Pediatrics	٣-٣-٢ تقييم وتطوير الطرق والادوات القائمة في مجال التخصص
2-3-4-Design treatment plans for different patients	
2-3-5 Application of basic skills for children in intensive care and	



emergency rooms	
2-3-6 Using technology to serve the professional practice in all branches of Pediatrics	٤-٣-٢ استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
2.3.7.Planning for the development of the professional practice and performance with regard to various areas of Pediatrics	٥-٣-٢ التخطيط لتطوير الممارسة المهنية وتنمية اداء الآخرين

D. General and transferable skills:

The academic standards of the MD program In Pediatrics	(ARS) National academic standards for postgraduate program (Doctoral)
By the e at the end of the study, doctoral program in pediatrics the graduate must be able to: 2-4-1 effective communication with various types of service areas of Pediatrics and its branches	بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على: ١-٤-٢ التواصل الفعال بأنواعه المختلفة
2-4-2 Use of information technology and updating methods in learning to serve the development of professional practice in Pediatrics	٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية
2-4-3 teaching others and assess their performance in Pediatrics and its branches to see the strengths and	٣-٤-٢ تعليم الآخرين وتقييم ادائهم



weakness. 2-4-4 self assessment for the development of all areas of Pediatrics, and know the strengths and weakness.	٤-٤-٢ التقييم الذاتى والتعليم المستمر
2-4-5 using various sources of information and knowledge serve Pediatric	٥-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف
2-4-6 work in a team and leading teams to promote methods of practice of Pediatrics	٦-٤-٢ العمل فى فريق وقيادة فرق العمل
2-4-7 To manage scientific meeting and time to collect different experiences in pediatrics and its branches	٧-٤-٢ ادارة اللقاءات العلمية والقدرة على ادارة الوقت
2-4-8 Search for all new and learning for continuous advancement in Pediatrics	



ملحق ٥: مصفوفة مضاهاة المعايير الأكاديمية للبرنامج و أهداف و نواتج تعلم البرنامج

The objectives of the program MD In Pediatrics	Specifications of graduate
The overall aims of the program are: 1.6	A graduate of the MD In Pediatrics should be able to: 1-1 Master the basics and methodologies for scientific research, especially in the science associated with pediatric
1.4 1.5	1-2 Continuing work on the addition of knowledge in the field of Pediatrics, neonatology and other pediatric branches
1.6	1-3 . Application of analytical and critical approach to knowledge in the field of Pediatrics and related area
1.5 1.1	1-4 Integrate knowledge of Pediatrics with other knowledge associated with it become proprietor and developer of inter-relationships between
1.7	1-5. Know ongoing current problems and new theories in the field of child
1.7	1-6 Identify problems in Pediatrics and finding innovative solutions.
1.5	1-7 Do perfectly wide range of professional skills in the area of Pediatrics



1.8	1-8 Orientated towards the development of methods and tools of practice for Pediatrics medicine.
1.8	1-9 Use of appropriate technological means to serve practice of Pediatrics patients .
1.9	1-10 Communicate effectively and lead the team in professional contexts serve Pediatric
1.10	1- 11Adopt the necessary resolution in speed in the information available to benefit of pediatrics patients
1.11	1.12 Employment of available resources efficiently and work on a new novel for resources for professional practice
1.12	1. 13 Awareness of his role in the development of society and the preservation of the environment, by learned information in Pediatrics
1.4 1.5	1-14 Act to reflect commitment to integrity, credibility and ethics to promote Pediatric
1-13	1-15 Commitment to self development and transfer of knowledge and experience to others to maintain the development of the practice of Pediatrics and branches
1-14	1-16 identifies a relevant research question, formulate hypothesis, determine the most suitable study design, analyze and interpret research data.



1-14

1-17 Writes a research paper.

نواتج التعلم لبرنامج الدكتوراة في طب الأطفال									المعايير الأكاديمية لبرنامج الدكتوراة في طب الأطفال
2-a Knowledge and understanding									
2.a.9	2.a.8	2.a.7	2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1	
				√	√	√	√	√	أ - المعرفة والفهم : <i>By end of the study pediatrics MD program the graduate must be able to understand and absorb all of:</i> 2.1.1- theories and fundamentals and modern knowledge in the field of Pediatrics and related branches. 2-1-2 the basics and methodologies and ethics of scientific research tools and that will serve the development of Pediatrics - 2.1.3 - the ethical and legal principles for professional practice in a Pediatrics 2-1-4The principle and fundamental of quality practice in pediatrics.
√			√						2.1.5- knowledge of effects of professional pediatrics practice and methods of environmental



									development and maintenance
√									2.1.6- impact of medicine practice on the environment and work to preserve the environment and maintenance.
		√							2-1-7 differentiate between pediatric diseases to prescribe effective treatment

نواتج التعلم لبرنامج الدكتوراه في طب الأطفال							المعايير الأكاديمية لبرنامج الدكتوراه في طب الأطفال
2-b –Intellectual skills:							
2.b.8-2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1	
√	√	√	√				ب - القدرات الذهنية : <i>At end of the study MD program in pediatrics graduate should be able to:</i> 2.2.1- analyzes and evaluates information in the field of Pediatrics and measuring them and elicitation of them in professional practice.
	√			√		√	2.2.2- solving specialized problems in Pediatrics on the basis of the data available



Pediatrics MD program



	✓		✓		✓		2-2-3 Make research studies add to the knowledge and help in development of Pediatric field.
✓	✓	✓					. 2.2.4 Formulation of scientific papers in various areas of Pediatrics
✓	✓	✓		✓			2.2.5- Evaluation of Risks in different Pediatrics practice and procedures.
✓	✓		✓				2.2.6- layout to improve performance in different branches of Pediatrics.
✓		✓					2-2-7 Arrange for proper decision-making in various professional Pediatrics serving areas.
				✓			2-2-8 innovation/creativity to develop Pediatrics and its branches.
	✓						2-2-9 Arrang evidence based benefits from different experiences in Pediatrics.



نواتج التعلم لبرنامج الدكتوراة في طب الأطفال									المعايير الأكاديمية لبرنامج الدكتوراة في طب الأطفال
2-c Professional and practical skills									
2.c.9	2.c.8	2.c.7	2.c.6	2.c.5	2.c.4	2.c.3	2.c.2	2.c.1	
									<i>By end of the study MD program in pediatrics graduate should be able to:</i>
✓	✓		✓	✓			✓	✓	2.3.1 Do professionally basic skills and modern techniques in Pediatrics medicine.
		✓							2-3-2- written professional reports for Pediatrics
							✓		2-3-3 development of assessment methods and tools in the areas of Pediatrics
		✓			✓				2.3.4 design treatment plans for different patients
		✓		✓			✓	✓	



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			√			√			2.3.5- application of basic skills for children in intensive care .
	√								2.3.6. using technology to serve the professional practice in all branches of Pediatrics.
√	√								2-3-7 planning for the development of the professional practice and development of other performance with regard to various areas of Pediatrics

نواتج التعلم لبرنامج الدكتوراة في طب الأطفال								المعايير الأكاديمية لبرنامج الدكتوراة في طب الأطفال
<u>2-d- General and transferred skills:</u>								
	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1	
								<i>At the end of the study MD program in pediatrics must be a graduate able to:</i>
						√	√	2.4.1 effective communication with various types of service areas of Pediatrics
		√	√		√			2.4.2 Use of information technology and updating methods in learning to serve the development of professional practice in



Pediatrics MD program



							Pediatrics	
						√	2.4.3 teaching others and assess their performance in Pediatrics and its branches to see the strengths and weakness points	
	√		√				2.4.4 self assessment for the development of all areas of Pediatrics, and know the strengths and weakness points	
			√	√			2.4.5 Using various sources of information and knowledge serve Pediatric.	
						√	√	2.4.6 work in a team and leading teams to promote methods of practice of Pediatrics
							√	2.4.7 Department of scientific meetings and the ability to manage the time to take advantage of the different experiences in Pediatrics and its branches
	√	√	√					2.4.8 Search for all new and learning for continuous advancement in Pediatrics .



c. Practical & Clinical Skills مهارات عملية و مهنية									HLOs Courses & codes Courses	
2.c.9	2.c.8	2.c.7	2.c.6	2.c.5	2.c.4	2.c.3	2.c.2	2.c.1		
√	√	√	√	√	√	√	√	√	PEDI 704	Pediatric •
	√				√				PEDI 701	Physiology •
√	√	√			√				PEDI 702	Pathology •
√	√					√				Thesis •

d. General and transferable مهارات عامة								HLOs Courses & codes Courses	
	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1		
	√	√	√	√	√	√	√	PEDI 704	Pediatric •
							√	PEDI 701	Physiology •
					√			PEDI 702	Pathology •
			√		√	√	√		Thesis •