



توصيف برنامج ماجستير طب الأطفال

عام (٢٠١٣-٢٠١٤)

*** معلومات أساسية :**

- ١ - اسم البرنامج : **Master program of Pediatrics**
- ٢ - طبيعة البرنامج : (مشترك)
- 3- القسم/ الأقسام المسؤولة عن البرنامج: Pathology, Anatomy, Bacteriology, Physiology, Pharmacology, Biochemistry and Community.
- 4- تاريخ إقرار البرنامج فى مجلس القسم : 7/6/٢٠١٣
- 5- تاريخ إقرار البرنامج فى مجلس الكلية 6/16/ ٢٠١٣م
- 6- مسئول البرنامج: Prof. Iman Abd El-Rehim
- 7-المراجع الداخلي Prof. Ahmed Alshazly professor of Pediatric Benha University
- 8- المراجع الخارجى Prof. Hala Salah El Din, Professor of Pediatrics Cairo University

*** معلومات متخصصة:**

١ - الأهداف العامة للبرنامج :

1- Program aims:

The overall aims of the program are:

- 1.1.To provide candidates with the background knowledge of academic basis of pediatrics including embryology, physiology, biochemistry, pharmacology, microbiology, community and pathology.
- 1.2.To provide candidates with the knowledge and practical skills necessary in clinical pediatrics



- 1.3.To provide candidates with the knowledge and skills necessary to practice neonatal medicine and child health care.
- 1.4.To interpret basic laboratory and imaging data in pediatrics.
- 1.5.To provide graduate with essential knowledge and skills necessary to comprehend and apply clinical genetics
- 1.6.To provide candidates with the communication skills and attitudes towards patient care and ethics of treatment and research.
- 1.7. Orient graduate to principles of research methodology , interpretation and practice of basic research in pediatrics
- 1.8.To give graduate ability to acquire the competence and meet the need of our local community and respond appropriately to cultural and medical needs.)
- 1.9. Awareness of the contemporary advances and developments in medical sciences as related to child health
- 1.10. To improve graduate skills by awareness of importance of continuous medical education
- 1.11. know medical ethics and legal rights of patient and his family.
- 1.12.To use available resources in his work efficiently.
- 1.13.To communicate properly with his superior's and other team members
- 1.14. To act with integrity, credibility and work rules of noble medical profession with accept accountability.
- 1.15.to make proper decision in the accurate time of patients management

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 **Demonstrate** the physiological, developmental, microbiologic, pathological and biochemical basis of neonatal and pediatric diseases



- 2.a.2 **Recognize** the normal function of the body in different pediatric age group.
- 2.a.3 **Discuss** diseases types of various systems included in the neonatal and pediatric medicine and their drug therapy.
- 2.a.4 **Highlight** the differential diagnosis of the different clinical presentations among neonates and children.
- 2.a.5. **Identify** the basic and updated data in different pediatric branches
- 2.a.6. Recognize the different genetic problems in the pediatric age
- 2.a.7. **Categorize** different pediatric emergencies and methods of dealing with.
- 2.a.8. **Recognize** basic and advanced knowledge in Pediatrics and related sciences (Physiology, Pathology, and Genetics)
- 2.a.9. Demonstrate the basic principles and practice of scientific research.

٢.ب - القدرات الذهنية :

2-b Intellectual skills:

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

- 2-b-1 Analyze cases presenting with different medical problems
- 2-b-2 **Interpret** medical history, clinical data and diagnostic findings to reach to proper diagnosis and treatment.
- 2-b-3 **Solve** different clinical problems in neonatal period and early infancy.
- 2-b-4 **Differentiate** between different pediatric diseases to reach diagnosis.
- 2-b-5 **Evaluates** clinical data of the patients
- 2.b.6. **Design** and carry out research in different era of science related to pediatric diseases.
- 2.b.7. **Interpret** different data to detect the point of weakness and strength.
- 2.b.8. **Recognize** evidence based learning and practice.



- 2.b.9. **Plan** to improve professional performance in health field
2.b.10. **Formulate data** to detect points of strength and weakness.

٢.ج - مهارات مهنية وعملية :

2-c Practical and Professional skills:

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

- 2.c.1 **Manage** problem cases in clinical neonatology and pediatric medicine.
- 2.c.2. **Interpret** the presentation of different genetics problems and child health
- 2-c-3 **Manage** cases presenting with different medical problems in different pediatric age groups
- 2-c-4 **perform** basic skills acquired related to various systems and diseases to diagnose different conditions.
- 2-c-5 **Apply** basic procedures for care of neonates in intensive care, and pediatric intensive care as well as outpatients
- 2-c-6 **manage** patient by proper plan with regular evaluation.
- 2.c.7 **Take** proper medical history of newborn, neonate, child and adolescent
- 2.c.8 **Perform** basic procedures for acutely and chronically ill pediatric patients in general wards.
- 2.c.9. **manage to improve** professional health performance .

٢.د: مهارات ع

2-d General and transferable skills:

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

- 2.d.1. **Recognize** the legal and ethical aspects in pediatric.
- 2.d.2. **Respect rights** of patients and their families to full understanding, and involve them in management decision.
- 2.d.3. **Communicate** clearly and effectively with patients and their family members with respect to them, colleagues and all members of the health profession.
- 2.d.4. **Explain** to the patients and their families the nature of illness, and the management plan to understand treatment options in easy way.



- 2.d.5. **Cope up** with difficult situations as breaking news.
2.d.6. **Demonstrate** competence in problem solving
2.d.7. **Develop** personal and career development plan.
2.d.8 **Use** different sources of data and knowledge
2.d.9. **Work** in one team and deal with proper time.
2.d.10. **Use** different sources to get different knowledge by them selves in different types of the diseases
2.d.11. **Evaluate** him-self and the others to learn the update diagnostic and therapeutic protocols of pediatric diseases and emergency.

٣ - المعايير الأكاديمية للبرنامج:

3. Academic Standards :

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

4- Reference standards

4- العلامات المرجعية:

المعايير القياسية لبرامج الدراسات العليا (درجة الماجستير) الصادرة عن الهيئة القومية لجودة التعليم والإعتماد (مارس ٢٠٠٩)

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

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

٥ - هيكل ومكونات البرنامج :

(5): Program structure and contents:

أ - مدة البرنامج : 2 years

Program duration

- 1st part: - One Semester (6 months).
- 2nd part: - Two Semesters (12months).
- Thesis: One Semester (6months)



ب - هيكل البرنامج:
Program structure

- Total hours of program 45 credit hours
- Theoretical13hrs.....
- Practical20hrs.....
- Thesis6hr
- University and Faculty...6hr.....

Compulsory:

Selective:

Elective

ج - مستويات ومقررات البرنامج:

الزامي Compulsory

الساعات المعتمدة	الكود	المقررات	البند
٦ ساعات	UNVI 601	الجامعة والكلية	متطلبات
١.٥ ساعة (١،٢،٣)	PEDI 601	١- فسيولوجيا	الجزء الأول
	PEDI 601	٢- الكيمياء الحيوية	
	PEDI 601	٣- فارماكولوجيا	
١.٥ ساعة (٤،٥،٦)	PEDI 602	٤- باكتريولوجيا	
	PEDI 602	٥- علم الاجنة	
	PEDI 602	٦- باثولوجيا	
٥ ساعات		تسجل بها الأنشطة المختلفة مثل حضور الندوات العلمية والمؤتمرات والدورات التدريبية وإجراء أبحاث إضافية	كراسة الأنشطة
		ويشمل الآتي:	الجزء الثاني



Master program of Pediatrics



٢١ ساعة	PEDI 604	طب الأطفال (مقرر نظري وعملي وإكلينيكي)	
١.٥ ساعة	PEDI 605	مقرر علمي في الوراثة - النمو والتطور	
2.5 ساعة	PEDI 606	مقرر علمي في رعاية الطفل بما فيها حديثي الولادة والمبتسرين والصحة العامة والتغذية	
٦ ساعات			رسالة الماجستير
٤٥ ساعة			الاجمالي

First part (24 weeks duration/ 6 months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total teaching hours	
		Theoretical		Laboratory /practical		Total
		Lectures	Seminars			
Physiology	PEDI٦٠١	1		1	1٥	
Pharmacology	PEDI٦٠١	1		1	15	
Biochemistry	PEDI٦٠١	1		1	15	
Pathology	PEDI٦٠٢	1		1	22	
Microbiology and immunology	٠٢	١		1	22	
Embryology	PEDI٦٠٢	١		١	15	
Log book activities						
Total.				8	104Hours	



b- Elective courses: none

c- Selective: none

Second part (48 weeks duration/12 months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total teaching hours weeks
		Theoretical Lectures	Laboratory /practical seminars	Total	
Pediatric	PED104	5	3	15	15
Neonatology and child welfare	PED106	1	2	3	3
Genetic and child health	PED105	1	1	2	2
Community Log book activities	PED105	1	1	2	2
Total:		8	3	11	22
Thesis					6 credit

b- Elective courses: none

c- Selective courses : none

6- محتويات المقررات (راجع توصيف المقررات)



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

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

(7): Program admission requirements:

مادة (٤): يشترط في قيد الطالب لدرجة الماجستير:

(١)

- أ- أن يكون حاصلًا على درجة البكالوريوس في الطب والجراحة من إحدى جامعات ج.م.ع أو على درجة معادلة لها من معهد علمي معترف به من الجامعة بتقدير جيد على الأقل.
- ب- يسمح للحاصل على الدبلوم وفقاً لنظام هذه اللائحة وبتقدير جيد على الأقل بتسجيل رسالة لاستكمال درجة الماجستير بشرط ألا يكون قد مر أكثر من ثلاث سنوات على تاريخ حصوله على درجة الدبلوم وبغض النظر على تقديره في درجة البكالوريوس.
- ت- يسمح للحاصل على الدبلوم وعلى خلاف لنظام هذه اللائحة أن يسجل لدرجة الماجستير بشرط أن يكون تقديره في الدبلوم لا يقل عن جيد وبغض النظر عن تقديره في البكالوريوس.

(٢) أن يكون قد أمضى السنة التدريبية أو ما يعادلها (سنة الامتياز)

(٣) أن يتفرغ للدراسة لمدة سنة على الأقل في الجزء الثاني (فصلين دراسيين)

مادة (٥): يكون التقدم للقبول لدرجة الماجستير مرة واحدة في السنة خلال شهري يوليو وأغسطس من كل عام.

- تبدأ الدراسة لدرجة الماجستير في شهر أكتوبر من كل عام.

٨ - القواعد المنظمة لإستكمال 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 في 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 في الطالب لنيل درجة ماجستير التخصص في 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 أصلي أو زائر لمدة سنة على الأقل في قسم التخصص بالنسبة للعلوم الاكلينيكية.
- ت- أن ينجح في امتحان القسمين الأول والثاني.
- ث- اجتياز الطلب لثلاث دورات في الحاسب الآلي (دورة في مقدمة الحاسب – دورة تدريبية متوسطة – دورة في تطبيقات الحاسب الآلي) وذلك قبل مناقشة الرسالة.
- ج- اجتياز اختبار التوفيل بمستوى لا يقل عن ٤٠٠ وحدة وذلك قبل مناقشة الرسالة.
- ح- أن يقوم باعداد بحث في موضوع تقره الجامعة بعد موافقة مجلس القسم ومجلس الكلية ينتهي باعداد رسالة تقبلها لجنة التحكيم.

9 طرق وقواعد تقييم الملتحقين بالبرنامج :

9- Students Assessment methods:

م	الوسيلة	مخرجات التعلم المستهدفة
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To assess knowledge, understanding & intellectual skills. 2.a.1-2.a.2-2.a.3-2.a.4-2.a.5-2.a.6-2.a.7,2.a.8- 2.b.3-2.b.4-2. b.5-2.b.6	Written examination	1
To assess knowledge, understanding, intellectual skills & General & transferable skills 2.a.1-2.a.2-2.a.3-2.a.5-2.a.6-2.b.4-2.c.3-2.c.4-2.d.1-2.d.2:2.d.11	Oral examination	2
To assess knowledge, understanding intellectual skills, clinical, and professional ,General & transferable skills 2.a.4-2.b.1-2.b.2-2.b.3-2.b.4-2.b.5-2.c.1-2.c.2-2.c.3-2.c.5-2.c.6-2.c.7-2.c.8-2.d.1:2.d.11	Practical examination & clinical examination	3
To assess knowledge, understanding intellectual skills, clinical, and professional ,General & transferable skills 2.a.9-2.b.5-2.b.6-2.b.9,2.b.10----2.c.9--2.d.1-2.d.2-2.d.3-2.d.7,2.d.8,2.d.10	Thesis discussion	4

Final exam.

First part

إجمالي	الدرجة				الاختبار	المقرر
	إكلينيكي	عملي	نظري	تحريري		
		10	15	25	اختبار تحريري مدته ثلاث ساعات (3+2+1) + اختبار عملي + شفوي	1- الباثولوجيا
			25	25	اختبار تحريري + شفوي	2- علم الأجنة
			25	25	اختبار تحريري + شفوي	3- الميكروبيولوجيا
			25	25	اختبار تحريري مدته ثلاث ساعات (6+5+4)	4- الفسيولوجيا



					+ شفوي	
			25	25	اختبار تحريري + شفوي	٥- الفارماكولوجيا
			25	25	اختبار تحريري + شفوي	٦- الضيمياء الحيوية
٣٠٠	إجمالي الدرجة					

Second part

إجمالي	الدرجة				الاختبار	المقرر
	عملي	إكلينيكي	شفوي	تحريري		
				100 +	اختباران تحريريان مدة كل منهما ثلاث ساعات + اختبار شفوي + اختبار إكلينيكي	- طب أطفال MCQ+ problem solving cases
	١٦٠		٤٠	١٠٠ +	اختباران تحريريان مدة كل منهما ثلاث ساعات + اختبار شفوي + اختبار إكلينيكي	حديثي الولادة وصحة الطفل
			٢٥	٢٥	امتحان تحريري + شفوي	والوراثة
		٥	٢٠	٢٥	امتحان تحريري + شفوي	صحة عامة (طب مجتمع)
٦٥٠	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:



Master program of Pediatrics



Evaluator	Tools	Signature
Internal evaluator (s) مقيّم داخلي	Focus group discussion Meetings	<u>Report ٢-١</u>
External Evaluator (s) مقيّم خارجي	Reviewing according to external evaluator checklist report of NAQAAE.	<u>1-2 Report</u>
Senior student (s) طلاب السنة النهائية	مقابلات , استبيان	<u>عينة من الطلبة</u>
Alumni الخريجون	مقابلات , استبيان	<u>عينة لا تقل عن ٥٠% من طلبة آخر ٣ سنوات</u>
Stakeholder (s) أصحاب العمل	مقابلات , استبيان	<u>عينة ممثلة لجميع جماعات العمل</u>
Others طرق أخرى	None	

Program coordinator:

Prof. Iman Abd El-Rehim

Signature & date



توصيف المقررات

Program courses

First part
1- Physiology
2- Biochemistry
3- Pharmacology
4- Pathology
5- Anatomy & Embryology
6-Bacteriology
Second part
1- PAEDIATRICS
2- PAEDIATRICS (Child Health and Neonatal care)
3- PAEDIATRICS (Genetics)
4- Community Medicine



Benha University

Faculty of Medicine

Department of physiology

Course **Specifications**

Course title: PHYSIOLOGY

Code: PEDI 601

Academic Year (2013 – 2014)

- **Major or minor elements of the program:** Minor of pediatric master program.
- **Academic year of Master program:** 2013-2014.
- **Date of specification approval:**
- **Date of specification approval:**
 - Department council date...7/6/2013.....

A- Basic Information

- **Allocated marks:** 50 marks.
- **Course duration:** 15 weeks of teaching.
Teaching hours: lectures: 15hrs practical:-----.

B- Professional Information

1 – Overall Aims of Course

- 1.1. approaching to the detailed knowledge of human physiology.
- 1.2. facilitate understanding the physiological data for the student in the clinical practice of pediatrics.

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- Mention important physiological definitions and laws.

2.1.3- describe different mechanisms of homeostasis and how to use it in applied physiology.

2.1.4- provide excellence in medical education, research

2.1.5- explain to the detailed knowledge of physiology in relation to pediatrics.

2.2- Intellectual skills:

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

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

2.2.2- Interpret physiological data into clinical manifestations .

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

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

2.2.5- Analyze any physiological curve related to pediatrics.

2.2.6-. combined the normal structure and function of the human body and mind at the molecular, biochemical, cellular, levels 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 report.

2.3.2-performe pulmonary function tests

2.3.3- writes ECG report findings.

2.3.4- Perform tests showing the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis.

2.4.- General and transferable skills

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

2.4.1-communicate properly and cautiously in a lab.

2.4.2 Effective communication with other team members.

2.4 .3 Self-assessment and determine the educational needs.

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.**
- **Anemias.**
- **Hemostasis.**
- **Erythropoiesis**
- **Leucocytes and immune system .**
- **Fever**
- **Vomiting**
- **Intestinal Motility and secretion**
- **Jaundice.**

4– Teaching and learning methods:

4.1. Methods used:

4.1-1.General lectures

4,1.2.-seminares

4,1.3-confrences

4-2- Teaching plan:

Time plain:

Item	Time schedule	Teaching hours
Lectures	1time/week (each time 1hour)	15hours

5- Student assessment methods:

5-a) Assessment TOOLS:



Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition, including MCQs and problem solving 2.1.1:2.1.5----2.2.1:2.2.6-----2.3.1:2.3.4
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation. 2.1.1:2.1.5----2.2.1:2.2.6-----2.3.1:2.3.4----- - 2.4.1:2.4.3

5-b) TIME SCHEDULE:

Exam	Week
- Final exam	at end of 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
1- Final exam:		
a- Written	25	50%
b- Oral	25	50%
Total	50	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 assay.
	2. Oral	One oral examination station with 2 staff members (10-15 minutes: 4-5 questions)

6- List of references

6.1- Essential books (text books)

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

6.2- Recommended books

Poul-Erik Paulev (2009): Medical Physiology Textbook

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

6.4 - 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.
3. Postgraduate laboratories with their equipments.

Course coordinator: Prof. Alaa Elteleis

Head of Department: Prof. Alaa Elteleis



Benha University

Faculty of Medicine

Department of Medical Biochemistry

Course Specifications

Course title: Medical Biochemistry

(Code): PEDI 601.

Academic Year: 2013 – 2014.

- **Department offering the course:** Medical Biochemistry.
- **Major or minor elements of the program:** Minor in Pediatrics master program.
- **Date of specification approval:**
 - Department council date...7/6/2013.....

A) Basic Information:

- **Allocated marks:** 50 marks.
- **Course duration:** 15 weeks of teaching
- **Teaching hours:** 15 hours lectures and tutorial

B) Professional Information:

1. Overall Aim of the Course:

- 1.1. Provide a broad education in fundamental aspects of medical biochemistry and molecular biology;
- 1.2. Provide a sound knowledge and understanding of the biochemical importance of macro-, micronutrients, hormones and enzymes;
- 1.3. To illustrate and/or describe the metabolic pathways of macronutrients and nucleotides;



2- Intended Learning Outcomes (ILOs):

2.1- Knowledge and understanding:

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

2.1.1. Describe the main metabolic pathways of the three main dietary sources of energy: carbohydrates, fats and proteins, their digestion absorption, their oxidation to release energy.

2.1.2 explain the regulation of these pathways and the integration of their metabolism

2.1.3 point-out biochemical alteration in related metabolic disorders.

2.1.4 identify the role of vitamins and enzymes required for catalysis of these processes, in addition to their deficiency manifestations.

2.1.5 Describe the contribution of certain tissues like liver, kidney and muscles to metabolism in health and disease.

2.1.6. Discuss the metabolism of the major minerals and trace elements, their functions and alterations in metabolic processes due to deficiency or excess of these elements.

2.1.7. list nucleic acid metabolism with special emphasis on their role in protein synthesis.

2.1.8 State the general principles of genetic engineering and how may this be used for the diagnosis and management of diseases.

2.1.9 Describe the components of some body fluids e.g. blood, urine and milk.

2.2. Intellectual skills:

2.2.1 Analyze pathological glucose tolerance curve.

2.2.2 Interpret medical laboratory reports.

2.2.3 Solve problems related to metabolic disturbances in a given case study report.



2.3. General and transferable skills:

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

23.1. Communicate properly with the staff members as well as with each other.

2.3.2. Work effectively in groups.

2.3.3. Use available resources to get data& knowledge.

3- Course contents:

Subject	Lectures (hrs)	Tutorials (hrs)	Total (hrs)	% of Total
Blood pH regulation, acidosis and alkalosis	1/2	---	1/2	
Major pathways of glucose oxidation , blood glucose regulation, hyper- and hypoglycemia	1	---	1	
Diabetes Mellitus, galactosemia & glycogen storage disease.	1	1	2	
Plasma lipoproteins, hyperlipidemia, hypercholesterolemia, F.A. oxidation, ketosis, lipotropic factors, fatty liver	1	1/2	1 1/2	
Inborn errors of metabolism of Individual amino acids	1	1/2	1 1/2	
Heme metabolism, hemoglobinopathies, porphyria and jaundice	1/2	1/2	1	
Vitamins & their deficiency manifestation	1	---	1	
Calcium & phosphate homeostasis, sodium, potassium, iron and their deficiency manifestation.	1	---	1	
Hyperuricemia & gout	1/2	1/2	1	
DNA structure, replication, transcription, regulation of gene expression, DNA damage and repair.	1	---	1	
RNA structure, transcription and posttranscriptional modification	1/2	---	1/2	
Cell cycle & apoptosis	1/2	---	1/2	
Protein synthesis: translation and posttranslational modifications.	1/2	---	1/2	



Recombinant DNA technology, blotting techniques.	1	---	1	
Plasma enzymes, their diagnostic values, Liver & kidney function tests	1/2	---	1/2	
Urine, blood and milk: normal and abnormal constituents & their clinical relevance.	1/2	---	1/2	
Total	12	3	15	100

III-C) PRACTICAL CLASSES: not applicable

4- Teaching and learning methods:

METHODS USED:

1. Lectures
2. Tutorials.

TEACHING PLAN:

Lectures: One lecture /week, one hour each, for 12 weeks, from 12:00 am to 1:00pm according to the current time table in the biochemistry department halls.

Tutorials: one hour/week, for 3 weeks, from 1:00 pm to 2:00pm according to the current time table in the biochemistry department halls.

Practical classes: not applicable

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	Once /week (for 10 week)	one hour each (12: 00 am to 1: 00 pm)	12
Tutorials	Once /week (for 3 weeks)	one hour each (1: 00 pm to 2: 00 pm,)	3



Total			15
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5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: attendance percentage of > 75% must be fulfilled before the final exam.

5-B)) Assessment TOOLS:

Tool	Purpose (ILOS)
Written examination	To assess knowledge ,understanding and intellectual skills 2.1.1:2.1.9—2.2.1.:2.2.3
Oral examination	To assess understanding and stability of knowledge, intellectual, general and transferable skills 2.1.1:2.1.9—2.2.1.:2.2.3—2.3.1,2.3.2,2.3.3

5-C) TIME SCHEDULE:

Exam	Week
Final exam	6 months after registration

5-D) Weighting System:

1- FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

2- SUMMATIVE ASSESSMENT:

Examination	Marks allocated	% of Total Marks
1. Written exam:	25	50%
2. Oral exam:	25	50%
Total	50	100%



- The minimum passing grade is 25 marks (50% of the total marks), provided that at least 12.5 marks (50% of marks for written exam) are obtained in the written exam.

5-E) Examinassions description:

Examination	Description	Marks
1- Written exam	Written exam (1 -hour) composed of short essay questions, multiple choice questions and a case study report.	25
2- Oral exam	One session of oral examination	25
Total		50

6- List of references:

- Essential books: Harper’s Biochemistry by: Roberk K. Murray, Daryl K. Granner, Peter A. Mayes and Victor W. Rodwell.26th edition 2003
- Recommended Books: Lippincott's Illustrated Reviews: Biochemistry, 6th edition ed. **Richard A. Harvey and Denise R. Ferrier** 1 Jul 2010
- **Periodical websites:** *www.clinchem.org*

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls
- Small group classes
- Information technology / AV aids

Course coordinator: Prof. Dr. Azza Elbermawy

Head of Department: Prof. Dr. Azza Elbermawy



Benha University

Faculty of Medicine

Department of Anatomy & Embryology

Course Specifications

- **Course title:** *__Anatomy & Embryology*
- **(Code) PEDI 502**
 - **Academic Year (2013 – 2014)**
- **Department offering the course:** *_Anatomy & Embryology*
- **Major or minor elements of the program:** minor in master program of Pediatrics
- **Academic level:** first part
- **Date of specification approval:**
 - Department council date...7/6/2013.....

A) Basic Information:

- **Allocated marks** 50_marks
- **Course duration:** 15 weeks of teaching 1st part
- **Teaching hours:** lectures 15hrs

B) Professional Information:

1- Overall Aim of the Course:

1.1 to provide the postgraduate educational experience necessary for further practice in General & Special Embryology .

1.2 To educate postgraduates about the experimental embryology to give them the key stone in understanding the anatomy and congenital malformation.

2- Intended Learning Outcomes (ILOs):



2.1 Knowledge and understanding:

By the end of the course postgraduates should be able to:

- 2.1.1 Describe the morphology , location ,vasculature , innervations & relations of different parts of human body.
- 2.1.2 Classify the most common variations to give an idea for the clinical application.
- 2.1.3 Summarize the radiological anatomy to know structure of deeper details.
- 2.1.4 Identify the surface anatomy of the visible and deeper structures of the body.

2.2 Intellectual skills:

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

- 2.2.1- Interpret result of radiological and surface anatomy
- 2.2.2- Solve problem of environmental factors on the development of body systems and possible congenital formation.

2.3. professional skills:

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

- 2.3.1 manage all types of data of normal & abnormal development.

2.4 General and transferable skills

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

- 2.4.1. Establish life-long self-learning required for continuous professional development.
- 2.4.2. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.



2.4.3. Establish effective interpersonal relationship to Communicate ideas and arguments .

2.4.4. Present information clearly in written, electronic and oral forms.

2.4.5 Communicate clearly, sensitively and effectively with colleagues from a variety of health and social care professions.

3- Course contents:

GENERAL EMBRYOLOGY:

- Gametogenesis, fertilization, Cleavage, Blastocyst and implantation, placentation, Foetal membranes& Twinning and nutrition of the zygote, Embryo and fetus.
- Embryogenesis: Embryonic discs, Bilaminar (Epiblast&Hypoblast)& Trilaminar discs. Notochord, Ectoderm, Endoderm and Mesoderm and their fate, Foldings (mechanism& Results).
- Prenatal, periods& Growth "Prenatal stages".
- Congenital malformations: causes and mechanisms "teratogenesis".
- Growth: Def., Types, patterns and Growth factors& Hormones.

SPECIAL EMBRYOLOGY: (Dev.& Anomalies):

- Digestive, Urinary, Genital, Cardiovascular, Lymphatic, Respiratory, Nervous, Endocrine, Muscular, Skeletal, Articular, and Integumental (skin) systems.
- Branchial arches, Tongue, palate, nose, Ear, eye, serous sacs and diaphragm (pericardium, pleura& meninges and peritoneum).

NEONATAL ANATOMY&GROWTH:

- Head: skull& fontanelles, tympanic antrum+mastoid process, Air sinuses, Mandible, suctorial pad and teeth.
- Neck, Larynx and trachea.
- Thorax.
- Subcutaneous fat, Vertebral column, spinal cord.



-Abdominal cavity, Liver, Peritonealfat, Kidneys, Urinary bladder, Peritonuem and Prepuce

4- Teaching and learning methods:

METHODS USED:

1. Modified Lectures
2. Small group discussions
3. Practical classes
4. Problem Solving

TEACHING PLAN:

Lectures: Lectures

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	1 times/week; 1hour each	15 h	100%
Total	1 hours/week	15 h	100%

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA:

1. Log book.

5-B Assessment TOOLS:

Tool	Purpose (ILOS)
Written examination	To assess knowledge ,understanding, intellectual ,professional skills 2.1.1:2.1.4—2.2.1,2.2.2—2.3.1
Oral examination	To assess understanding and stability of knowledge, intellectual, professional skills given, general and transferable skills. 2.1.1:2.1.4—2.2.1.,2.2.2—2.3.1—2.4.1:2.4.5

5-C) TIME SCHEDULE:



Exam	Week
1- First exam	May or September
2- Second exam	June or October

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
1- First exam		
a- Written	25	50%
b- Oral	25	50%

75- <85%, GOOD 65- <75% and FAIR 60-<65%.

FORMATIVE ASSESSMENT:

Postgraduates know his marks after the Formative exams.

5-E) Examinations description:

Examination	Type	Description
Final Examination	1. Written	A three-hour written paper composed of Long & short essay-type questions, MCQs (two papers-3 hours each)
	2. Oral	One oral examination station with 2 staff members (20-30 minutes)

6- List of references:

6.1- Essential books (text books):

6.1 Susan Standring (2008): Gray's Anatomy: The Anatomical Basis of Clinical Practice, Expert Consult , 40th edition– November 21, 2008

6.2. Langman's Medical Embryology – 1 Apr 2006

by Thomas W. Sadler ,11th edition, from Lippincott Williams and Wilkins

6.2- Recommended books:



- Bruce Carlson: Human embryology & development biology, 2009, 4th edition, Mosby, Elsevier.
- **6.3- Periodicals, Web sites, ... etc: www.bfom.edu.eg.**

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls: 1
- Laboratory: 1
- Information technology / AV aids
- Embryonic cadavers if possible.

Course coordinator: Prof Dr. Abd-Elwanees Al-Awdan.

Head of Department: Prof. Sadia Shalaby



Benha University

Faculty of Medicine

Department of pathology

Course Specification

- **Course title: Human Pathology**

(Code): PEDI 502

Academic Year (2013 – 2014)

- **Major or minor elements of the program:** minor in master program of Pediatrics
- **Academic level:** first part
- **Date of specification approval:**
- Department council date...7/6/2013.....

A) Basic Information:

- **Allocated marks:** 50 marks
- **Course duration:** 24 weeks of teaching
- **Lectures:** 8hr **Practical:** 11hr

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.
- 1.4. Diagnose of practical problems as cases study and clinical assessment
- 1.5. Develop recent tools & ways essential for medical practice.
- 1.6. to aware of his role in the progress of society and the environment in the light of international & local changes.
- 1.11. Respect the practical rules with honesty.



1.12. Lifelong learning competencies necessary for continuous professional development.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

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

- 2.1.1. mention the dissection of different types of biopsies.
- 2.1.2. Identify laws in relation to medical practice and acquaintance with related amendments and judgments passed by courts .
- 2.1.3 Describe the clinical manifestations and differential diagnosis of common pathological cases.
- 2.1.4. explain the principles that govern ethical decision making in clinical practice as well as the pathological aspect of medical malpractice.
- 2.1.5. Identify the scope and impact of human rights law on persons and groups.

2.b. Intellectual Skills:

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

- 2.2.1. solve problem and make decision skills necessary for proper evaluation and management.
- 2.2.2 interpret the risky problems that could be met during taking biopsies .
- 2.2.3. Analyze the clinical and investigational database problem to be proficient in clinical solving.
- 2.2.4. interpret to development in his practice.
- 2.2.5.distinction the most appropriate and cost effective diagnostic procedures for each problem.
- 2.2.6. design the formula of research hypothesis & questions.
- 2.2.7. analyze the questioning approach to own work & that of others to solve clinical problems

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.
- 2.32. Perform the gross examination and able to describe the findings of different organs efficiently
- 2..33. Diagnose different cases problem
- 2.3.4. perform the assessment of reports like cancer assessment report, cytological report and immunohistochemical report.

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. Perform the evaluation of others by putting rules & regularities .
- 2.4.3. Perform life-long self-learning required for continuous professional development
- 2.4.4. communication technology to remain current with advances in knowledge and practice by using the sources of biomedical information.
- 2.4.5. perform self criticism. .
- 2.4.6. Perform information by all means, including electronic means.

1- 3- Course contents:

Subject	Lectures (hrs)	Practical (hrs)	Total (hrs)
General Pathology			
Cell response to injury, Stem cells and repair, Tissue deposits	½	0	1/2
Inflammation ,Granulomas ,Viral disease	½	1	1.5
Disturbance of growth Neoplasia, Developmental and genetic diseases	1	1	2
Circulatory disturbances, Radiation Basic imunopathology	1	0	1
Diagnostic methods in pathology	1	0	1
Special Pathology			
Diseases of Infancy & Childhood	½	0	½
Tumors of infancy and childhood	½	2	2.5
Rickets.	½	0	0.5
Diseases of the Renal system:	½	1	1.5



Diseases of Cardiovascular system	½	1	1.5
Diseases of G.I.T. & Liver	½	2	2.5
Diseases of Lymphatic system, blood & bone marrow	½	2	2.5
Diseases of CNS- Bone	½	1	1.5
Total	8	11	19

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: Division of students into 3 groups
1 /week, Time from 11 to 12.*

Tutorials:

Practical classes

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	<u>1</u> times/week; one hour each	11w	8hr
Practical	<u>1</u> hours / week		11hr
Total			19hr

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 2.1.1:2.1.5—2.2.1.,2.2.7—2.3.1.,2.3.4
Oral examination	To assess understanding and stability of knowledge, intellectual, , general and transferable. 2.1.1:2.1.5—2.2.1.,2.2.7—2.3.1.,2.3.4—2.4.1:2.4.6
Practical examination	to assess professional and practical skills, and general and ,transferable 2.3.1.,2.3.4—2.4.1:2.4.6

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- First part: - written - oral - practical & clinical	At the end of the course
2- Assignments & other activities	

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
1- First part: a- Written	25	50%
b- Practical	10	20%
c- Oral	15	30%
Total	50	100%

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

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
First part:	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>
<http://www.gw-hyperlink> <http://umc.edu/dept/path/2>
umc.edu/dept/path/2F

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls.
- Small group classes
- Laboratory
- Information technology / AV aids
- Data show
- Overhead projector
- Museum specimens
- Projector slides covering available slides in slide box

Course coordinator: Prof.Dr. Hala Adel Agina

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



Benha University

Faculty of Medicine

Department of Clinical Pharmacology

Course Specification

Course title: Pharmacology

(Code): **PEDI 601**

Academic Year (2013 – 2014)

- **Department offering the course:** Pharmacology Department
- **Major or minor elements of the program:** Minor in Pediatrics master program
- **Date of specification approval:**
- Department council date **7/6/2013**.....

A) Basic Information:

- **Allocated marks:** 50marks
- **Course duration:** 15 weeks of teaching
- **Teaching hours: lectures:** 15 total teaching hours

B) Professional Information:

1- Overall Aim of the Course:

- To provide the advanced knowledge about commonly used groups of drugs affecting different body systems and their implications in therapy of diseases and health promotion.

2- Intended Learning Outcomes (ILOs):

2.1 Knowledge and understanding:



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

2.1- Knowledge and understanding:

- 2.1.1- Discuss the pharmacokinetic, pharmacodynamic and pharmacotherapeutic properties of different groups of drugs affecting body systems.
- 2.1.2- Discuss the adverse and toxic effects, and their management of commonly used groups interactions.
- 2.1.4- Define clinically relevant age, sex and genetic related variations that affect response to drugs.
- 2.1.5- Discuss the pathophysiology of diseases and explain the rational basis for the use of drugs.

2.2. Intellectual Skills:

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

- 2.2.1- Analyzes the comprehensive drug history of the patient.
- 2.2.2- Correlates drug adverse reactions with clinical data.

2.3. Practical Skills

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

- 2.3.1- Write rational therapeutic strategies for both acute and chronic conditions that take into account the various variables that influence these strategies.
- 2.3.2- Select the proper drug(s) for the proper clinical situation in proper dosage.

2.4. General and transferable Skills:

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

- 2.4.1- Demonstrate respect to all patients irrespective of their socioeconomic levels, culture or religious beliefs and use language appropriate to the patient's culture.
- 2.4.2- Provide appropriate basic drug education to the patient and his family.
- 2.4.3- aware the importance of life-long self-learning and show a strong commandment to it.

3- Course contents:



	<i>Course</i>	Code	Hours
First part	1-General pharmacology	PEDI 601	- 1. hour
	2-Autonomic pharmacology		- 3 hours
	3-CNS pharmacology		- 3 hours
	4-Cardiovascular drugs		- 2 hours
	5-Chemotherapy		- 1. hour
	6-Endocrine pharmacology		- 1 hour
	7-Respiratory pharmacology		- 1hour
	8-Gastrointestinal pharmacology		- 1hour
	9-Drugs affecting blood and blood forming organs		- 1hour
	10-Vitamins & minerals & tonics		- 1 hour
Total			15 hours

4- Teaching and learning methods:

METHODS USED:

4.1 – Lectures

TEACHING PLAN:

Item	Time schedule	Teaching hours	Total hours
Lectures	-1 time/ week -1hours each	1hours/week for 15 weeks	15
Practical	-----	-----	-----
Total			15

5- Students Assessment methods:

5.A) Attendance Criteria:



1. Practical attendance.
2. Log book.

5.B) Assessment Tools:

Tool	Purpose (ILOS)
Written examination	To assess knowledge ,understanding, intellectual ,professional and clinical 2.1.1:2.1.5—2.2.1.,2.2.2—2.3.1
Oral examination	To assess understanding and stability of knowledge, intellectual, professional skills given, attitude and presentation. 2.1.1:2.1.5—2.2.1.,2.2.2—2.3.1—2.4.1:2.4.3

5.C) TIME SCHEDULE:

Exam	Week
First part exam	After 6 months from registration for MSc. Degree

5-D) Weighting system:

written exams.	50 %
Oral Examination	40 %
Semester Work	10 %
Other types of Assessment	
<hr/>	
Total	100%

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

First part:



Assessment(1): Written exams. (1hr)

Assessment (2): Oral examination.

6- List of references:

6.1 Essential Books (Text Books):

David E. Golan; Armen H. Tashjian; Ehrin J. and Armstrong et al.(2005): Principles of pharmacology: the pathophysiologic basis of drug [et al.], Philadelphia : Lippincott Williams & Wilkins.

6.2- Recommended Books:

GOODMAN AND OILMAN(2005): THE PHARMACOLOGICAL BASIS OF THERAPEUTICS 11th edition.

6.3- web Sites:

www.micromedex.co

7- Facilities required for teaching and learning:

- Lecture rooms:
- Section rooms
- Audio-visual teaching equipments (Computer, Projector, Videoetc)
- Models and mannequins
- Video tapes, scientific pictures archives.

Course Coordinator: Prof. Dr. Mohaned Mohammed

Head of Department: Prof. Dr. Mohaned Mohammed Ibrahim Shehab



توصيف مقرر (PEDI 602)
Bacteriology Course for Master Degree in Pediatrics
Academic Year 2013-2014

مواصفات المقرر:

البرنامج أو البرامج التي يقدم من خلالها المقرر :

Master Degree in PEDI

المقرر يمثل عنصر بالنسبة للبرنامج :الرئيسي

قسم طب الاطفال

القسم العلمى المسئول عن البرنامج :

Bacteriology department

القسم العلمى المسئول عن تدريس المقرر

الاول

السنة الدراسية / المستوى :

تاريخ اعتماد توصيف البرنامج.....7/6/2013

(أ) البيانات الأساسية

الدروس العملية: 11 hours

المحاضرة : 8 hours

المجموع: 22 hours

(ب) البيانات المهنية

١ - الأهداف العامة للمقرر :

- 1.1. To educate students about the basic features of general bacteriology, virology, microbial genetics and mycology and to provide students with an understanding of the immune system, its protective functions and its role in the pathophysiology of infectious and non-infectious diseases.
- 1.2. To familiarize students with the common infections and diseases of medical importance, their microbial causes, as well as laboratory diagnosis, treatment, prevention and control of such diseases.
- 1.3. To enable the students to practice the principles infection control.



٢ - النتائج التعليمية المستهدفة للمقرر :
أ - المعرفة والفهم :

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

- 2.1.1. Illustrate general bacterial morphology, physiology and genetics.
- 2.1.2. Understand the host parasite relationship and microbial pathogenesis.
- 2.1.3. Explain the physiology of the immune system, its beneficial role, its interaction with tumors, its deficiency conditions, as well as its detrimental role in hypersensitivity, autoimmunity and transplant rejection
- 2.1.4. Describe the morphology, culture, antigenic structure and virulence factors of microorganisms of medical importance
- 2.1.5. Recognize the most important skin and venereal infectious conditions and outline the diagnosis, treatment, prevention and control of the most likely organisms causing such diseases
- 2.1.6. Describe the most important methods of decontamination, sterilization and principles of infection control.
- 2.1.7. Describe the basics of antimicrobial chemotherapy and resistance.
- 2.1.8. Understand the impact of molecular technology in microbiology and immunology.

ب - المهارات الذهنية :

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

- 2.2.1. Analyze medically important bacteria based on microscopic examination of stained preparations.
- 2.2.2. distinguish a Gram stain and a Ziehl-Neelsen stain.
- 2.2.3. correlate culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.
- 2.2.4. correlate various sterilization processes and simple infection control measures

ج - المهارات المهنية والعملية الخاصة بالمقرر :

By the end of the course, the graduates should be able to



- 2.3.1. Diagnose medically important bacteria based on microscopic examination of stained preparations.
- 2.3.2. perform a Gram stain and a Ziehl-Neelsen stain.
- 2.3.3. diagnose culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.
- 2.3.4. perform various sterilization processes and simple infection control measures

د - المهارات العامة :

By the end of the course, the graduates should be able to

- 2.4.1. Demonstrate Respect for patients' rights and involve them and /or their caretakers in management decisions.
- 2.4.2. Adopt an empathic and holistic approach to the patients and their problems.
- 2.4.3. Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague).
- 2.4.4. Conduct counseling sessions for prevention & control of different conditions for healthy individuals, for patients as well as their families.

١ ٣ -- محتوى المقرر :

Subject	Lectures (hrs)	Small groups discussion (hrs)	Total (hrs)
Introduction to Microbiology Bacterial Cell Structure Disinfection and Sterilization	0.5	1	1.5
Staphylococci , streptococci, and Neisseria Pneumococci Corynebacteria Bacillus Group & Clostridium	0.5	3	3.5
Mycobacteria , Gram negative bacilli	1	3	4



<p><u>except campylobacter,H.pylori</u> & Gram negative small rods (all except moraxella, and in Haemophilus only Haemophilus influenza)</p>			
<p>Spirochaetes , Mycoplasma , Rickettsia Chlamydia , Coxilla, Legionellae pneumophila &Listeria</p>	1		1
<p><u>Gram negative bacilli(except campylobacter,H.pylori)</u> Anaerobic gram negative bacilli Anaerobic gram negative cocci <u>Applied Microbiology: (meningitis, respiratory tract infection, urinary tract infection, Bacterial food poisoning, water borne diseases, milk borne diseases, Hospital acquired infections, diseases transmitted from the mother to the fetus).</u></p>	1		1
<p>Cells of immune response. Natural &acquired immunity. Immune response. Antigens, antibodies ,complement cytokines. Cell mediated immunity MHC Apoptosis &necrosis Superantigen</p>	1	2	3



<p>General virology</p> <ul style="list-style-type: none"> - Structure - Lab. Diagnosis (idea) - Viral replication (idea) - Antiviral chemotherapy <ul style="list-style-type: none"> - Antiviral immunity - Pathogenesis of viral diseases <ul style="list-style-type: none"> - viral vaccines 	1	2	3
<p>Herpesviruses</p> <p>Adenoviruses</p> <p><u>Picornavirus</u></p> <p><u>Rabies Virus</u></p> <p><u>Arboviruses</u></p> <p><u>Coronaviruses</u></p>	1		1
<p>Orthomyxoviruses & Paramyxoviruses</p> <p>human immunodeficiency virus (HIV)</p> <p>hepatitis Viruses</p>	1		1
Total	8hs	11hrs	19hs

4- أساليب التعليم والتعلم:

1. Lectures.
2. Practical classes
3. Small group discussion with case study and problem solving.
4. Assay (using library & internet)

5 - أساليب تقييم الطلاب

5-A) ATTENDANCE CRITERIA:

1. Log book



5-B)) Assessment TOOLS:

Tool	Purpose (ILOS)
Written examination	To assess knowledge ,understanding, intellectual ,professional and clinical 2.1.1:2.1.8—2.2.1.:2.2.4—2.3.1,.2.3.4---
Oral examination	To assess understanding and stability of knowledge, intellectual, professional skills given, attitude and presentation. 2.1.1:2.1.8—2.2.1.:2.2.4—2.3.1,.2.3.4—2.4.1:2.4.4

5-C) TIME SCHEDULE:

Exam	Week
- Final exam	at (May or September)

النسبة المئوية لكل تقييم :

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
- Final exam:		
a- Written	25	50%
b- Oral	25	50%
Total	50	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	A three-hour written paper composed of short essay-type questions and Case study
	2. Oral	One oral examination station with 2 staff members (10-15 minutes: 4-5 questions)

6 - قائمة المراجع

6.1- Essential books (text books):

1. Jawetz, Melnick and Adelberg's *Medical Microbiology 26th Edition* . 2013 by The McGraw-Hill Companies, Inc
2. *Mackie & McCartney Practical Medical Microbiology. 14e(hb)2008* by ELSEVIER PRIVATE LIMITED INDIA. ISBN:9788131203934
3. Abul K. Abbas, Andrew H. Lichtman, shiv pillai. Cellular and molecular immunology, Updated 7th ed. 2012. ISBN 9780323222754

6.2- Recommended books:

1. Richard A Harvey, Pamela C Champe, Bruce D Fisher (2007): Lippincott's illustrated review microbiology and parasitology, Lippincott Williams & Wilkins ISBN: 0781782155
2. Bonnie A. B, Lauritz A. J (2009): Lippincott's Illustrated Q&A Review of Microbiology and Immunology by Lippincott Williams & Wilkins , 1st ed. SBN-13: 978-1582558578

6.3- Periodicals, Web sites, etc:

1. asmnews@asmusa.org
2. <http://www.phage.org/black09.htm>
3. http://www.microbe.org/microbes/virus_or_bacterium.asp
4. <http://www.bact.wisc.edu/Bact330/330Lecturetopics>
5. http://whyfiles.org/012mad_cow/7.html
6. <http://www.microbelibrary.org>
7. <http://www.hepnet.com/hepb.htm>
8. http://www.tulane.edu/~dmsander/Big_Virology/BVHomePage.html
9. <http://www.mic.ki.se/Diseases/c2.html>
10. <http://www.med.sc.edu:85/book/welcome.htm>
11. http://www.bioiogy.arizona.edu/immunology/microbiology_immunology.html



٧ - الإمكانيات المطلوبة للتعليم والتعلم

Facilities used for teaching this course include:

- Department lectures halls: 1
- Department Equipped Laboratories :2

7/6/2013.....

تاريخ إعتقاد توصيف البرنامج:

رئيس القسم :

أستاذ المادة :

Prof. Wafaa Al Shafei

Prof. Waffa Al Shafei



Benha University

Faculty of Medicine

Department of Paediatrics

Course Specifications

Course title: PAEDIATRICS

Code: PEDI 604

Academic Year (2013 - 2014)

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

a) Basic Information:

- **Allocated marks:** 400 marks.
- **Course duration:** 48 weeks of teaching.
- **Teaching hours:** 720 total teaching hours (240h lectures + 480 practical)

B) Professional Information:

1- Overall Aim of the Course:

- 1.1.To provide candidates with the background knowledge of academic basis of pediatrics including embryology, physiology, biochemistry, pharmacology, microbiology, immunology and pathology.
- 1.2.To provide candidates with the knowledge and skills necessary to practice clinical pediatrics
- 1.3.To provide candidates with the knowledge and skills necessary to practice neonatal medicine



- 1.4.To provide candidates with the knowledge and skills necessary to practice child health
- 1.5.To provide candidates with the knowledge and skills necessary to comprehend and apply clinical genetics
- 1.6.To provide candidates with the communication skills and attitudes towards patient care and ethics of treatment and research.
- 1.7.To provide candidates with the skills necessary to interpret and practice basic research in pediatrics
- 1.8.To give graduate ability to acquire the competence and meet the need of our local community and respond appropriately to cultural and medical needs.

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, developmental, microbiologic, pathological and biochemical basis of neonatal and pediatric diseases
- 2.1.2 ***Recognize*** the normal function of the body in different pediatric age group.
- 2.1.3 ***Describe*** the etiology and types of diseases of various systems included in the neonatal and pediatric medicine and their drug therapy.
- 2.1.4 ***Highlight*** the differential diagnosis of the different clinical presentations among neonates and children.
- 2.1.5. ***Identify*** the basic and updated data in different pediatric branches
- 2.1.6. ***Categorize*** different pediatric emergencies.
- 2.1.7. ***Identify*** basic and advanced knowledge in Pediatrics and related sciences.
- 2.1.8 ***Identify*** the basic principles and practice of scientific research.

2.2. Intellectual Skills:

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



- 2-2-1 Analyze cases presenting with different medical problems
- 2-2-2 **Interpret** medical history, clinical data and diagnostic findings to reach to proper diagnosis and treatment.
- 2-2-3 **Solve** different clinical problems in neonatal period and early infancy.

- 2-2-4 Differentiate between different pediatric diseases to reach diagnosis.
- 2-2-5 **evaluate** clinical data of the patients
- 2.2.6. Design and carry out research in different era of science related to pediatric diseases.
- 2.2.7. **Interpret** of different data to detect the point of weakness and strength.
- 2.2.8. Recognize evidence based learning and practice.
- 2.2.9. Plan to improve professional performance in health field
- 2.2.10. **Formulate** the data to detect points of strength and weakness.

2-3 Practical and Clinical skills:

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

- 2.3.1 **Manage** cases problem in clinical neonatology and pediatric medicine.
- 2.3.2. **Identify** the presentation of different genetics problems and child health
- 2-3-3 **Manage** cases presenting with different medical problems in different pediatric age groups
- 2-3-4 **Evaluate** the knowledge acquired in the various systems and diseases to analyze and diagnose different conditions.
- 2-3-5 **Apply** basic procedures for patients in pediatric intensive care as well as outpatients
- 2-3-6 **Design** and evaluate management plan of patients.
- 2.3.7 **Take** proper medical history of newborn, neonate, child and adolescent
- 2.3.8 **Perform** basic procedures for acutely and chronically ill pediatric patients in general wards.

2.4. General and transferable Skills:

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

- 2.4.1. **Recognize** the legal and ethical aspects in pediatric.



2.4.2. Respects rights of patients and their families to full understanding, and involve them in management decision.

2.4.3. **Communicate** clearly and effectively with patients and their family members with respect to them,

2.4.4. **Explain** to the patients and their families the nature of illness, and the management plan to understand treatment options in easy way.

2.4.5. **Cope up** with difficult situations as breaking news.

2.4.6. **Demonstrate** competence in problem solving

2.4.7. **Develop** personal career and put development plan.

2.4.8 **Use** different sources of data and knowledge

2.4.9. **Work** in one team and deal with proper time with respect to colleagues and all members of the health profession.

2.4.10. **Use** different sources to get different knowledge by themselves in different types of the diseases

2.4.11. **Evaluate** himself and the others and learn the update in diagnostic and therapeutic protocols of pediatric diseases and emergency.

4- Course content

TOPIC	Theoretical hrs	Practical hrs
1. Immunology, allergic rheumatic diseases	25	25
2. Nephrology	25	28
3. Cardiology	25	28
4. Respiratory system	25	28
5. Hematology/Oncology	25	28
6. Emergency and acutely ill child, fluid therapy	25	25
7. Endocrinology	25	25
8. Neurology	25	25
9. Gastroenterology and Hepatology	25	28



10. Behavioral and social Pediatrics	15	----
TOTAL	(240)100%	(240)100%

III.A) TOPICS:

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

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

The Digestive System

Clinical Manifestations of Gastrointestinal Disease



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

Pyloric Stenosis and Other Congenital Anomalies of the Stomach, Intestinal Arteria, Stenosis, and Malrotation, Motility Disorders and Hirschsprung Disease, Ileus, Adhesions, Intussusception, and Closed-Loop Obstructions, Anorectal Malformations, Inguinal Hernias

The Oral Cavity

Cleft Lip and Palate, Dental Caries,

Peritoneum

Peritonitis, Diaphragmatic hernia

The Esophagus

Atresia and Tracheoesophageal Fistula, Gastroesophageal Reflux, achalasia

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 Gastroesophageal 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
The Anemias, Anemias of Inadequate Production
Physiologic Anemia of Infancy, Megaloblastic Anemias, Iron Deficiency Anemia,
Hemolytic Anemias
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

Adrenocortical 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

The Ear

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

Complications.

The Skin

Eczema, Cutaneous Bacterial Infections, Acne.



Orthopedic Problems

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

Management of Musculoskeletal Injury, Head and Neck Injuries,
Skeletal Dysplasia

General Considerations in Disorders of Skeletal Development

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

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 Preoperative Care, Pain Management in Children,

Metabolic Diseases

An Approach to Inborn Errors of metabolism, defects in metabolism of AA,
lipids and proteins ,MPS, PORFERIA and porgeria

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,

Unclassified Diseases

Sudden Infant Death Syndrome

Environmental Health Hazards

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

III.B) Tutorial / Small Group Discussions

- 5-) Clinical rounds
- 2- Clinical grand conference

III.C) PRACTICAL CLASSES:

- 5. Clinical rounds
- 6. Demonstrated and Supervised Procedures
- 7. Supervised outpatient and inpatient care
- 8. Clinical conferences

4- Teaching and learning methods:

METHODS USED:

- 1. Modified Lectures
- 2. Small group discussions
- 3. Training Workshops
- 4. Clinical rounds
- 5. Seminars, scientific conferences and symposiums
- 6. learning online .

TEACHING PLAN:

*Lectures: Division of students into 2 groups
2/week, Time from 10 to 1:30 .*

Tutorials:





Practical classes

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	<u>2</u> times/week; 2.5 hour for each	2X2.5 h =5h	5 x 48 wks=240hrs
Practical	<u>5</u> hours / week	5	5x 48 = 240 hrs
Seminars	<u>3</u> hours / _week	3	3x48 =144 hrs
Small groups	<u>2</u> h/w	2	2x 48 =96hrs
Total		15	720 hrs

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge, problem solving attitudes and skills through essay and MCQs 2.1.1:2.1.8---- 2.2.1:2.2.9----2.3.1:2.3.8
Oral examination	To assess knowledge and attitudes and self confidence 2.1.1:2.1.8----2.2.1:2.2.9----2.3.1:2.3.8-- ---2.4.1:2.4.11
Clinical examination	To asses clinical skills through 2 short cases and one long case2.3.1:2.3.8-----2.4.1:2.4.11
Practical examination	Through audiovisual presentations to assess attitudes and skills and abilities2.3.1:2.3.8----- 2.4.1:2.4.11

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Final written exam	48
2- Final clinical exam	49



3- Thesis dissertation submission	72 -73
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5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
- Final exam: a- Written Pediatrics child health	200	50%
b- Practical clinical pediatrics(long+2short)	160	40%
c- Oral Pediatrics	40	10%
Total	400	100%

- The minimum passing & Passing grades (Faculty bylaws) (50% for written and 50% for clinical and oral and for overall)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
- Final exam: a- Written	a-Short essay questions b- Problem solving case studies, MCQs .
b- Practical,	- Do clinical examination for 2 short cases and one long



clinical	case
c- Oral	c- i- Identify the diagnostics modalities in clinical pediatrics (X-ray and lab spots) c-ii– discusses with candidate their knowledge in clinical pediatric topics.
- Assignments & other activities	-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 Livingston, 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:

6-3-1 MRCPCH Master Course in Child Health by Malcolm Levene

6-3-2 Internet resources



6.3- Periodicals, Web sites, ... etc: Disseminated on pediatric department website

www.benhapediatrics.com MD Consult, e medicine Medscape

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture rooms in pediatric department
- Small group classes in clinical wards and staff rooms
- Information technology / AV aids on computer in department and faculty
- Skill lab

Course coordinator: Prof .Iman Abdelraheim, Dr. Ghada Saad

Head of dept: Prof. Dr. Mohamed ElBakry

Updated 1/9/2013



Benha University

Faculty of Medicine

Department of Paediatrics

Course Specifications

Course title: Child Health and Neonatal care

Code: PEDI 606

Academic Year (2013 - 2014)

- **Department offering the course: Pediatric Department**
- **Major or minor elements of the program: Major.**
- **Date of specification approval: - Department council No. (169)
date: 3/ 9 / 2013**

A) Basic Information:

- **Allocated marks: 200 marks.**
- **Course duration: 48 weeks of teaching.**
- **Teaching hours: 45h lectures + 90 hrs practical**

B) Professional Information:

1- Overall Aim of the Course:

1-1 To equip candidates with the background knowledge of academic basis of pediatrics including embryology, physiology, biochemistry, pharmacology, microbiology, immunology and pathology.

1-2 To equip candidates with the knowledge and skills necessary to practice neonatal medicine

1-3 To equip candidates with the knowledge and skills necessary to practice child health

1-4 To equip candidates with the communication skills and attitudes towards patient care and ethics of treatment and research



- 1-5 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.

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, developmental, microbiologic, pathological and biochemical basis of neonatal and pediatric diseases
- 2-1-2 **Recognize** the etiology and types of diseases under the different systems included in the neonatal medicine
- 2-1-3 . **Illustrate** types of diseases of various systems included in the neonatal medicine and child health.
- 2-1-4 List the differential diagnosis of the different clinical presentations among neonates.

2.2. Intellectual Skills:

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

- 2-2-1 Analyze cases presenting with different medical problems (nutrition, developmental.....etc).
- 2-2-2 **Interpret** data and point of weakness and strength of the present data.
- 2-2-3 Recognize between different neonatal diseases and during infancy to reach diagnosis and interpret clinical and diagnostic findings.
- 2-2-4 Solve cases problem in clinical neonatology and child health.

2-3, Practical and Clinical skills:

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

- 2-3-1 Predict clinical and diagnostic findings to reach a founded diagnosis
- 2-3-2 **Manage** cases in clinical neonatology and child health care field
- 2-3-3 **Apply** basic procedures for care of neonates in intensive care as well as outpatients.
- 2-3-4 Perform problem solving and case study.



- 2-3-5 Make decisions according to situations of the patient.
 2.3.6 perform basic vaccination skills and developmental assessment

2.4. General and transferable Skills:

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

- 2.4.1. Recognize** the legal and ethical aspects in pediatric.
- 2.4.2. Learn** the update in diagnostic and therapeutic protocols of neonatal disease and emergency
- 2.4.3. Use** different sources of data and knowledge in different types of the diseases.
- 2-4-4 Communicate with patients at all ages and their family members and care-givers
- 2-4-5 Respect the rights of patients and their families to full understanding, choices and consent to management plan
- 2-4-6 Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.
- 2-4-7 Work effectively as a member or a leader of an interdisciplinary team.

2- Course contents:

TOPIC		Theoretical hrs	Practical hrs
1	Neonatology	35	17
2	Growth and Development	20	10
3	Nutrition	20	10
4	infection and parasitic diseases	10	5
5	Preventive medicine	4	3
TOTAL		(90)100%	(45)100%



III.A) TOPICS:

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 .

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.

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 Fetus and the Neonatal Infant

Noninfectious 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 and Clinical Syndromes.

Infectious Diseases

General Considerations Fever.

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, Shiglla 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.

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

III.B) Tutorial / Small Group Discussions

- 1- Clinical grand conference
- 2- Work shop



III.C) PRACTICAL CLASSES:

1. Clinical conferences
2. Demonstrated and Supervised Procedures

4- Teaching and learning methods:

METHODS USED:

1. Lectures
2. Training Workshops
3. Clinical conferences
4. .Seminars, scientific conferences.

TEACHING PLAN:

*Lectures: Division of students into 3 groups
1/week, time from 10 to 1p.m.*

Tutorials:



Practical classes

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	<u>1</u> times/week; 1 hour for each	1X1 h =1h	1 x 45 wks=45hrs
Practical	<u>2</u> hours / week	2	2x 45 = 90hrs
Total		3	135 hrs

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment TOOLS:

Tool	Purpose (ILOs)
Written examination	To assess knowledge, problem solving attitudes and



	skills through essay and MCQs 2.1.1:2.1.4---- 2.2.1:2.2.4----2.3.1:2.3.6
Oral examination	To assess knowledge and attitudes and self confidence 2.1.1:2.1.4----2.2.1:2.2.4----2.3.1:2.3.6-- ---2.4.1:2.4.7
Clinical examination	To asses clinical skills through 2 short cases and one long case 2.3.1:2.3.6-----2.4.1:2.4.7
Practical examination	Through audiovisual presentations to assess attitudes and skills and abilities 2.3.1:2.3.6----- 2.4.1:2.4.7

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
1- Final written exam	48
2- Final clinical exam	49

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
- Final exam: a- Written Child health and Neonatal care	100	50%
b- OSCE	100	50%
Total	200	100%

- The minimum passing & Passing grades (Faculty bylaws). (50% for written and 50% for clinical and oral and for overall)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.



5-E) Examinations description:

Examination	Description
- Final exam: a- Written b- OSCE	a-Short essay questions b- Problem solving case studies, MCQs . i- Identify the clinical diagnostics modalities in clinical neonatology ii- Identify clinical problems in child health and neonatology (spots session)
3- Assignments & other activities	-Complete log practical books for training, procedures and scientific activities

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 Livingston, 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: Disseminated on pediatric department website, MD Consult, e medicine Medscape

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture rooms in pediatric department
- Small group classes in clinical wards and staff rooms
- Information technology / AV aids on computer in department and faculty
- Skill lab

Course coordinator: Prof .Iman Abdelraheim,

Head of dept: Prof. Dr. Mohamed ElBakry

Updated 7/6/2013.....



Benha University

Faculty of Medicine

Department of Paediatrics

Course Specifications

Course title: Genetics

Code: PEDI 605

Academic Year (2013 - 2014)

- **Department offering the course: Pediatric Department**
- **Major or minor elements of the program: Major.**
- **Academic levels: Second part.**
- **Date of specification approval:**
 - **Department council date: 7/6/2013.....**

A) Basic Information:+

- **Allocated marks: 50 marks.**
- **Course duration: 48 weeks of teaching.**
- **Teaching hours: 15hr lectures +45hr practical**

B) Professional Information:

1- Overall Aim of the Course:

- 1-1 To equip candidates with the background knowledge of academic basis of pediatrics including embryology, physiology, biochemistry, pharmacology, microbiology, immunology and pathology.
- 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 comprehend and apply clinical genetics



- 1-4 To equip candidates with the communication skills and attitudes towards patient care and ethics of treatment and research
- 1-5 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.
- 1-6 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.

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, developmental, microbiologic, pathological and biochemical basis of genetic diseases
- 2-1-2. **Recognize** the basic and updated data in different pediatric branches
- 2-1-3. **Identify** the different genetic problems in the pediatric age

2.2. Intellectual Skills:

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

- 2-2-1 Analyze cases presenting with different medical problems.
- 2-2-2 Analyze data and point of weakness and strength of the present data.
- 2-2-3 Recognize between different pediatric diseases to reach diagnosis and interpret clinical and diagnostic findings.
- 2-2-4 Solve genetics problem in clinical cases .
- 2-2-5 Design and carry out research and critically evaluate research findings

2-3 Practical and Clinical skills:

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

- 2-3-1 **interpret** cases presenting with different genetic problems
- 2-3-2 **Combine** clinical and diagnostic findings to reach a founded diagnosis
- 2-3-3 **Manage** cases in clinical genetics



- 2-3-4 Diagnose different pediatric diseases to reach diagnosis.
- 2-3-5 Make decisions according to situations of the patient.

2.4. General and transferable Skills:

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

2.4.1. Recognize the legal and ethical aspects in pediatric genetics.

2.4.2 Learn the update in diagnostic and therapeutic protocols of pediatric genetic diseases.

2.4.3. Use different sources of data and knowledge in different types of the diseases.

2.4.4. Communicate with patients at all ages and their family members and care-giver

2-4-5 Respect the rights of patients and their families to full understanding, choices and consent to management plan

2-4-6 Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.

2-4-7 Work effectively as a member or a leader of an interdisciplinary team.

3- Course contents:

TOPIC	Theoretical hrs	Practical hrs
1-Molecular Diagnosis of Genetic Diseases	1	3
2-Integration of genetics into pediatric practice	1	3
3- Genetic counseling	1	3
4- Management and treatment of genetic disorders	1	3
5-Genetic approach in pediatric medicine	1	3



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6-Human genome	1	3
7-Pattern of genetic transmission	1	3
8-Cytogenetics	1	3
9-Methods of chromosomal analysis	1	3
10- Down syndrome and other abnormalities of chromosome number	1	5
11-Abnormalities of chromosome structure	1	3
12-Sex chromosome anomalies	1	4
13-Genetics of common disorders	1	3
14- Current understanding of genetics of common disorders in children	2	3
TOTAL	15hrs 100%	45hrs100%

III.A) TOPICS:

Genetics Diseases

--Molecular Diagnosis of Genetic Diseases and Patterns.

--Integration of genetics into pediatric practice

Genetic counseling

Management and treatment of genetic disorders

--Genetic approach in pediatric medicine

--Human genome

--Pattern of genetic transmission

--Cytogenetics

Methods of chromosomal analysis



Down syndrome and other abnormalities of chromosome number

Abnormalities of chromosome structure

Sex chromosome aneuploidy

Fragile chromosome sites

Mosaicism

--Genetics of common disorders

Current understanding of genetics of common disorders in children

III.B) Tutorial / Small Group Discussions

- 1- Clinical rounds
- 2-Workshop of genetic disease.

III.C) PRACTICAL CLASSES:

- 1. Clinical conferences
- 2. Supervised outpatient and inpatient care

4- Teaching and learning methods:

METHODS USED:

- 1. Lectures
- 2. Training Workshops
- 3. Clinical conferences
- 4. Seminars, scientific conferences

TEACHING PLAN:

*Lectures: Division of students into 3 groups
once/week, Time from 10 to 11p.m*

Tutorials:



Practical classes

Time plan:

Item	Time schedule	Teaching hours	Total hours
Lectures	<u>1</u> times/week; 1hour for each	1X1 h =1h	1x 15 wks =15hrs



Practical	<u>1</u> hours / <u>_</u> week	1	1x45w = 45hrs
Total		2	60hrs

5- Students Assessment methods:

5-A) **ATTENDANCE CRITERIA**: Faculty bylaws

5-B) **Assessment TOOLS**:

Tool	Purpose (ILOs)
Written examination	To assess knowledge, understanding by problem solving attitudes and skills through essay and MCQs 2.1.1:2.1.3---2.2.1:2.2.5---2.3.1:2.3.5
Oral examination	To assess knowledge and attitudes and self confidence 2.1.1:2.1.3---2.2.1:2.2.5---2.3.1:2.3.5---2.4.1:2.4.7
Clinical examination	To assess knowledge ,practical , clinical skills through 2 short cases and one long case 2.3.1:2.3.5---2.4.1:2.4.7

Practical genetic exam considered as a part of clinical exam in general pediatrics

5-C) **TIME SCHEDULE**: Faculty bylaws

Exam	Week
1- Final written exam	48
2- Final oral exam	49
3- Thesis dissertation submission	72 -73

5-D) **Weighting System**:

Examination	Marks allocated	% of Total Marks
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- Final exam: a- Written Pediatrics Genetics	25	50%
b- Oral Pediatrics Genetics	25	50%
Total	50	100%

- The minimum passing & Passing grades (Faculty bylaws). (50% for written and 50% for clinical and oral and for overall)

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
- Final exam: a- Written	a-Short essay questions
b- Oral	a– Discuss with candidate their knowledge in clinical applied genetics through one oral session.

Practical genetic exam considered as a part of clinical exam in general

6- List of references:

6.1- Essential books (text books):

6.1.1- Emery's Elements of Medical Genetics: With STUDENT CONSULT Online Access, 14e .Peter D Turnpenny , Sian Ellard (eds.) March 15, 2011.



6.1-2 - Nelson Textbook of Pediatrics; Behrman RE, Kliegman RM, Jenon, HB; Elsevier Science; 19^h edition, 2011

6-1-3 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

6.2- 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: Disseminated on pediatric department website

www.benhapediatrics.com MD Consult, e medicine Medscape

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture rooms in pediatric department
- Small group classes in clinical wards and staff rooms
- Information technology / AV aids on computer in department and faculty

Course coordinator: Prof .Iman Abdelraheim.

Head of dept: Prof. Dr. Mohamed ElBakry



Course Specification of Community Medicine

▪ **Code:** PEDI 506

1. **Program on which the course is given:** Master Degree in Pediatrics.
2. **Major or minor element of the program:** Minor.
3. **Department offering the program:** Pediatrics.
4. **Department offering the course:** Community Medicine department.
5. **Academic Year/Level:** Second Part.
6. **Date of specification approval:** department date **7/6/2013**.....

A) Basic Information

- **Teaching hours:** 11 hr lectures –11 hrs practical

B) Professional Information

1. Overall Aims of the Course:

- 1.1 To equip candidates with the basis of public health, in the term of child health care programs, Principles of statistical methods, research methods, biostatistics.
- 1.2 To equip candidates with the knowledge and skills necessary to practice health education and training programs.
- 1.3 To provide candidates the basis of nutrition & management of malnutrition.
- 1.4 To enable the students to practice the principles of infection control.

2- Intended Learning Outcomes (ILOs):

A- Knowledge and understanding:

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

- A.1 Understand and devise child health programs based on local needs.
- A.2 Describe the Egyptian health care systems for the promotion and protection of child health.
- A.3 Describe the basics of Principles of statistical methods, research methods and biostatistics.
- A.4 Describe the basis of nutrition & types of malnutrition.



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- A.5 Recognize the most important infectious clinical conditions and outline the diagnosis, treatment, prevention and control of common pediatric problems.
- A.6 Describe the principles of infection control.

B- Intellectual Skills:

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

- B.1 Interpret suitable methods for conducting research.
- B.2 Choose suitable methods for analysis of data.
- B.3 Carry-out health education sessions.
- B.4 Select appropriate method for assessing nutritional status.

C- Professional Skills:

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

- C.1 Perform different types of surveys.
- C.2 Perform principles of statistical methods for collection, presentation & analysis of all types of data

D- General and Transferable Skills

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

- D.1 Establish life-long self-learning required for continuous professional development.
- D.2 Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.
- D.3 Retrieve, manage, and manipulate information by all means, including electronic means.
- D.4 Present information clearly in written, electronic and oral forms.
- D.5 Conduct counseling sessions for prevention & control of different conditions for healthy individuals, for patients as well as their families.
- D.6 Establish effective interpersonal relationship to Communicate ideas and arguments.

3- Course contents:

Topics	Hours of Lectures	Practical/Tutorial	ILOs



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Types of data	1	1	A3,D1,D2,D3
Collection of data: <ul style="list-style-type: none"> ▪ Sampling ▪ Screening ▪ Survey ▪ Epidemiological studies 	1	1	A3,B1,C4,C5 D1,D2,D3
Summarization of data: <ul style="list-style-type: none"> ▪ Measures of central tendency ▪ Measures of dispersion 	2	1	A3,D1,D2,D3
Presentation of data	1	1	C5 , D3,D4
Normal distribution curve	2	1	A3, D1,D2,D3
Analysis of data & tests of significance	1	1	A3,B2, D1,D2,D3
Vital rates		1	A3
Basic nutrition: Essential food elements Trace elements Food pyramid Food balance sheet Nutritional assessment Malnutrition Breast feeding	1	2	A4,B3,B4,C1,C2
Child health services	2	2	A1,A2,A5,A6,C3, D5,D6
Total	11	11	

4- Teaching and learning methods:

- Lectures.
- Practical classes



- Small group discussion with case study and problem solving.

5- Students Assessment methods:

- **Assessment tools**

Tool	Purpose (ILOs)
Written examination	To assess knowledge, understanding and intellectual skills : 2.a.1:2.a.6----2.b.2.1:2.b.4
Oral examination	To assess knowledge and attitudes and self confidence 2.a.1:2.a.6----2.b.1:2.b.4---2.c.1:2.c.2---2.d.1:2.d.6

- **Assessment schedule**

Exam	Time
Written exam	12 months after passing the first part exam.
Oral exam	After the written exam.

- **Weighting System**

Examination	Marks allocated	% of Total Marks
Written	25	50%
Oral	20	40%
Field training(logbook)	5	10%
Total	50	100%

- **Examination description**

Examination	Description
<ul style="list-style-type: none"> ▪ Written 	<ul style="list-style-type: none"> ▪ Written paper composed of short essay-type questions. ▪ One oral examination station with 2 staff members (10-15 minutes: 4-5 questions).
<ul style="list-style-type: none"> ▪ Oral 	

6- List of references:

6.1- Essential books (text books) like *Khalil IF, 1999*: Biostatistics, Cairo University
6.2- Recommended books like: Wallace/Maxcy-Rosenau-Last public health & preventive medicine ,editor, **Robert B. Wallace et al.,15th edition 2008**.

6.3- Periodicals, Web sites, etc:

- WHO.int.com
- Pub. Med
- Google
- Science direct



7- Facilities required for teaching and learning:

7.1 Adequate infrastructure: including teaching places (teaching class & teaching hall) provided with comfortable desks, fans, air condition, adequate sources of lighting both natural and artificial and security tools.

7.2 Teaching tools: including screens, black board, white board, data show, computers, laser printer, scanner & copier.

7.3 Computer program: for statistical analysis of data.

- **Course coordinator:** Prof Dr.Mona Hussein Elmahdy
- **Head of department:** Prof. Mahmoud Fawzy



الملحقات

ملحق ١ : Academic standard of the program

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

ملحق ٣ : مصفوفة مضاهاة المعايير الأكاديمية المتبناة للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة لدرجة الدبلومه.

ملحق ٤ : مصفوفة مضاهاة المعايير الأكاديمية للبرنامج وأهداف ونواتج تعلم البرنامج

ملحق ٥ : مصفوفة مضاهاة مقررات البرنامج مع المعارف والمهارات



ملحق ١: Academic standard of the program:

جامعه بنها
كلية طب بنها

قسم طب الاطفال

وثيقة المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال

Academic Reference Standards for

Master Degree in Pediatrics

1- Graduate Attributes:-

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

1.1 Apply and analysis of basic knowledge with academic background to use in pediatrics.

1.2 Use knowledge and skills necessary to practice clinical pediatrics and child health

1.3 Apply fundamental knowledge of genetic diseases in children.

1.4 Apply fundamental knowledge of neonatal diseases.

1.5. Acquire the competence and meet the need of our local community and respond appropriately to cultural and medical needs

1.6 use new technology necessary to practice clinical pediatrics

1.7 communicate effectively with his superior's and other team members

1.8 Collect and interpret basic laboratory and imaging data in pediatrics to solve medical problems.



- 1.9 Have good communication skills and attitudes towards patient and his family.
- 1.10 Aware of medical ethics and legal rights of patient and his family.
- 1.11 Able to collect and analyze medical research data according to basic research rules.
- 1.12 To aware graduate with importance of continuous medical education and improvement of his skills.
- 1.13 Use available resources to doctor efficiently.
- 1.14. To act with integrity, credibility and work rules of noble medical profession with accept accountability.
- 1.15. Awareness with current problems and new vision in general pediatrics.
- 1.16. Decision making in different medical problems and emergencies.

2- Academic standards:

2.1 Knowledge and understanding:

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

- 2.1.1 Theories and fundamentals related to pediatrics as well as in related fields
- 2.1.2 Mutual influence between professional practice and its impacts on the environment
- 2.1.3 New Scientific developments in pediatrics, neonatology and genetics.
- 2.1.4. Perform relevant investigative and therapeutic procedures for the pediatric patient.
- 2.1.4 Moral and legal principles of professional practice in pediatrics.



2.1.5 Principles and the basics of quality in professional practice in the pediatrics.

2.1.6 Basics, ethics and methodology of scientific research in pediatrics.

2-2 Intellectual Skills:

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

2.2.1 Analyze and evaluate the information in pediatrics and analogies to solve problems

2.2.2 Solve specialized problems with the unavailability of some data

2.2.3 Link between the various professional knowledge to solve problems in pediatrics practice

2.2.4 Conducting a research study or writing a systematic scientific study on the research problem.

2.2.5 Risk Assessment in professional practices in pediatrics.

2.2.6 Planning for the development of performance in pediatrics and neonatology

2.2.7 Professional decision-making in a variety of professional contexts.

2-3 – Practical/Professional skills

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

2.3.1 Master the basic and modern specialized skills in pediatrics.

2.3.2 Writing and evaluating professional reports

2.3.3 Assess methods and tools to assess existing in pediatrics

2-3-4 Using technology to serve the professional practice in all branches of Pediatrics

2.3.5 Plane to upgrading the medical performance in pediatrics.

2-4 General and transferable Skills:



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

2.4.1 Effective communication of all kinds; with patients, their families, other team members.

2.4.2 The use of information technology to serve the professional practice.

2.4.3 Self-assessment and determine the educational needs.

2.4.4 The use of different sources of information and knowledge.

2.4.5 Follow rules and indicators to assess the performance of others.

2.4.6 Work in different professional contexts team.

2.4.7 Manage time efficiently.

2.4.8 Self and continuous learning.

7/6/2013..... - تاريخ إقرار البرنامج في مجلس القسم رقم:

16/6/2013 - تاريخ إقرار البرنامج في مجلس الكلية:

رئيس قسم طب الأطفال
ا.د. محمد البكري



ملحق ٢: المعايير القياسية العامة لبرامج قطاع الدراسات العليا الصادرة عن الهيئة

برامج الماجستير

١- مواصفات الخريج

- خريج برنامج الماجستير في أي تخصص يجب أن يكون قادرا على :
- ١-١ إجادة تطبيق أساسيات ومنهجيات البحث العلمي واستخدام أدواته المختلفة
 - ٢-١ تطبيق المنهج التحليلي واستخدامه في مجال التخصص
 - ٣-١ تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة في ممارسته المهنية
 - ٤-١ إظهار وعيا بالمشاكل الجارية والرؤى الحديثة في مجال التخصص
 - ٥-١ تحديد المشكلات المهنية وإيجاد حلول لها
 - ٦-١ إتقان نطاق مناسب من المهارات المهنية المتخصصة واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
 - ٧-١ التوصل بفاعلية والقدرة على قيادة فرق العمل
 - ٨-١ اتخاذ القرار في سياقات مهنية مختلفة
 - ٩-١ توظيف الموارد المتاحة بما يحقق أعلى استفادة والحفاظ عليها
 - ١٠-١ إظهار الوعي بدوره في تنمية المجتمع والحفاظ على البيئة في ضوء المتغيرات العالمية والاقليمية
 - ١١-١ التصرف بما يعكس الالتزام بالنزهة والمصداقية والالتزام بقواعد المهنة
 - ١٢-١ تنمية ذاته أكاديميا ومهنيا وقادرا على التعلم المستمر

2- المعايير القياسية العامة

١-٢ المعرفة والفهم :

- بأنتهاء دراسة برنامج الماجستير يجب ان يكون الخريج على فهم ودراية بكل من :
- ١-٢-١ النظريات والاساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة
 - ٢-١-٢-٢ التأثير المتبادل بين الممارسة المهنية وانعكاسها على البيئة
 - ٣-١-٢ التطورات العلمية في مجال التخصص
 - ٤-١-٢ المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص
 - ٥-١-٢ مبادئ واساسيات الجودة في الممارسة المهنية في مجال التخصص
 - ٦-١-٢ اساسيات واخلاقيات البحث العلمي

٢-٢ المهارات الذهنية :

- بأنتهاء دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
- ١-٢-٢ تحليل وتقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل
 - ٢-٢-٢ حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
 - ٣-٢-٢ الربط بين المعارف المختلفة لحل المشاكل المهنية
 - ٤-٢-٢ اجراء دراسة بحثية او كتابة دراسة علمية منهجية حول مشكلة بحثية
 - ٥-٢-٢ تقييم المخاطر في الممارسات المهنية في مجال التخصص
 - ٦-٢-٢ التخطيط لتطوير الاداء في مجال التخصص
 - ٧-٢-٢ اتخاذ القرارات المهنية في سياقات مهنية متنوعة



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٣-٢ المهارات المهنية

- بانتهاء دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
- ١-٣-٢ اتقان المهارات المهنية الاساسية والحديثة فى مجال التخصص
 - ٢-٣-٢ كتابة وتقييم التقارير المهنية
 - ٣-٣-٢ تقييم الطرق والادوات القائمة فى مجال التخصص

٤-٢ المهارات العامة والمنتقلة :

- بانتهاء دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :
- ١-٤-٢ التواصل الفعال بأنواعه المختلفة
 - ٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
 - ٣-٤-٢ التقييم الذاتى وتحديد احتياجاته التعليمية
 - ٤-٤-٢ استخدام المصادر المختلفة لحصول على المعلومات والمعارف
 - ٥-٤-٢ وضع قواعد ومؤشرات تقييم اداء الاخرين
 - ٦-٤-٢ العمل فى فريق سياقات كهنية مختلفة
 - ٧-٤-٢ ادارة الوقت بكفاءة
 - ٨-٤-٢ التعلم الذاتى والمستمر



ملحق 3: مضاهاة المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال مع المعايير
المعايير الأكاديمية القياسية العامة الصادرة عن الهيئة

مواصفات الخريج:

مواصفات الخريج في برنامج الماجستير في طب الأطفال	مواصفات الخريج في المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الماجستير)
<i>By end of the study pediatrics master degree program the graduate must be able to understand of</i> 1-11 Able to collect and analyze medical research data according to basic research rules	خريج برنامج الماجستير في أي تخصص يجب أن يكون قادرا على: ١-١ إجادة تطبيق أساسيات ومنهجيات البحث العلمي واستخدام أدواته المختلفة
1-1 Apply and analysis of basic knowledge with academic background to use in pediatrics.	٢-١ تطبيق المنهج التحليلي واستخدامه في مجال التخصص
1-2-Use knowledge and skills necessary to practice clinical pediatrics and child health 1-3 Apply fundamental knowledge of genetic diseases in children 1-4 Apply fundamental knowledge of neonatal diseases	٣-١ تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة في ممارسته المهنية
1.15. Awareness with current problems and new vision in general pediatrics.	٤-١ إظهار وعيا بالمشاكل الجارية والرؤى الحديثة في مجال التخصص
1-8 collect and interpret basic laboratory and imaging data in pediatrics to solve medical problems	٥-١ تحديد المشكلات المهنية وإيجاد حلول لها
1-6 use new technology necessary to	٦-١ إتقان نطاق مناسب من المهارات



practice clinical pediatrics	المهنية المتخصصة واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
1-7 communicate effectively with his superior's and other team members	٧-١ التوصل بفاعلية والقدرة على قيادة فرق العمل
1.16. Decision making in different medical problems and emergencies.	٨-١ اتخاذ القرار في سياقات مهنية مختلفة
1-13 Use available resources to doctor efficiently.	٩-١ توظيف الموارد المتاحة بما يحقق أعلى استفادة والحفاظ عليها
1.5.Acquire the competence and meet the need of our local community and respond appropriately to cultural and medical needs	١٠-١ إظهار الوعي بدوره في تنمية المجتمع والحفاظ على البيئة في ضوء المتغيرات العالمية والاقليمية
1-10Aware of medical ethics and legal rights of patient and his family. 1-14 To act with integrity, credibility and work rules of noble medical profession with accept accountability.	١١-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية والالتزام بقواعد المهنة
1.12.To aware graduate with importance of continuous medical education and improvement of his skills.	١٢-١ تنمية ذاته أكاديميا ومهنيا وقادرا على التعلم المستمر
1-9.Have good communication skills and attitudes towards patient and his family.	

أ - المعرفة والفهم:



2-1. Knowledge and understanding:

المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال	(ARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الماجستير)
<p><i>By end of the study pediatrics master degree program the graduate must be able to understand of:</i></p> <p>2.1.1 Theories and fundamentals related to pediatrics as well as in related fields</p>	<p>بانتهاؤدراسةبرامج دبلومه الدراسات العليا يجب أن يكون الخريج قادرا على فهم واستيعاب كل من:</p> <p>١-١- النظريات والاساسيات والمعارف المتخصصة في مجال التعلم وكذا العلوم ذات العلاقة بممارسته المهنية</p>
<p>2.1.2 Mutual influence between professional practice and its impacts on the environment</p>	<p>٢- التأثير المتبادل بين الممارسة المهنية وانعكاسها على البيئة</p>
<p>2.1.3 New Scientific developments in pediatrics, neonatology and genetics.</p>	<p>٣- التطورات العلمية في مجال التخصص</p>
<p>2.1.4. Perform relevant investigative and therapeutic procedures for the pediatric patient.</p> <p>2.1.5 Moral and legal principles of professional practice in pediatrics.</p>	<p>٤- المبادئ الاخلاقية والقانونية للممارسة المهنية في مجال التخصص</p>
<p>2.1.٦ Principles and the basics of quality in professional practice in the pediatrics.</p>	<p>٥- مبادئ واساسيات الجودة في الممارسة المهنية في مجال التخصص</p>
<p>2.1.٧ Basics, ethics and methodology of scientific research in pediatrics.</p>	<p>٦- اساسيات واخلاقيات البحث العلمي</p>



ب - القدرات الذهنية :

المعايير الأكاديمية للبرنامج الماجستير في طب الأطفال	ARS المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الماجستير)
<i>By the end of pediatrics master's program graduate must able to:</i>	بانتهاؤ دراسة برنامج ماجستير الدراسات العليا يجب أن يكون الخريج قادرا على :
2.2.1 Analyze and evaluate the information in pediatrics and analogies to solve problems	١- تحديد وتحليل المشاكل في مجال التخصص وترتيبها وفقا لأولوياتها -
2.2.2 Solve specialized problems with the unavailability of some data	٢- حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
2.2.3 Link between the various professional knowledge to solve problems in pediatrics practice	٣- الربط بين المعارف المختلفة لحل المشاكل المهنية
2.2.4 Conducting a research study or writing a systematic scientific study on the research problem.	٤- اجراء دراسة بحثية او كتابة دراسة علمية منهجية حول مشكلة بحثية
2.2.5 Risk Assessment in professional practices in pediatrics.	٥- تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.2.6 Planning for the development of performance in pediatrics and neonatology	٦- التخطيط لتطوير الاداء في مجال التخصص
2.2.7 Professional decision-making in a variety of professional contexts.	٧- اتخاذ القرارات المهنية في سياقات مهنية متنوعة



ج. مهارات مهنية وعملية :

المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال	(ARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الماجستير)
<i>By the end of pediatrics master's program graduate must able to:</i> 2.3.1 Master the basic and modern specialized skills in pediatrics.	بإنتهاء دراسة برنامج ماجستير الدراسات العليا يجب أن يكون الخريج قادرا على : ١ - إتقان المهارات المهنية الأساسية والحديثه في مجال التخصص
2.3.2 Writing and evaluating professional reports	٢- كتابة التقارير المهنية.
Assess methods and tools to assess existing in pediatrics	٣- تقييم الطرق والادوات القائمة في مجال التخصص
2-3-4 using technology to serve the professional practice in all branches of Pediatrics	٤- استخدام الاساليب التكنولوجية في الممارسة العملية
2.3.5 Plan to upgrading the medical performance in pediatrics.	٥- وضع خطط للتطوير

د . مهارات عامة :

المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال	(ARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا (درجة الماجستير)
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<p><i>By the end of pediatrics master's program graduate must able to:</i></p>	<p>بانتهاؤ دراسة برنامج الماجستير يجب ان يكون الخريج قادرا على :</p>
<p>2.4.1 Effective communication of all kinds; with patients, their families, other team members .</p>	<p>١- التواصل الفعال بأنواعه المختلفة</p>
<p>2.4.2 The use of information technology to serve the professional practice.</p>	<p>٢- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية</p>
<p>2.4.3 Self-assessment and determine the educational needs.</p>	<p>٣- التقييم الذاتي وتحديد احتياجاته التعليمية</p>
<p>2.4.4 The use of different sources of information and knowledge.</p>	<p>٤ استخدام المصادر المختلفة لحصول على المعلومات والمعارف</p>
<p>2.4.5 Rules and indicators to assess the performance of others.</p>	<p>٥- وضع قواعد ومؤشرات تقييم اداء الاخرين</p>
<p>2.4.6 Work in different professional contexts team.</p>	<p>٦- العمل فى فريق سياقات مهنية مختلفة</p>
<p>2.4.7 Manage time efficiently.</p>	<p>٧- ادارة الوقت بكفاءة</p>
<p>2.4.8 Self and continuous learning.</p>	<p>٨- التعلم الذاتى والمستمر</p>



ملحق 4: مصفوفة مضاهاة المعايير الأكاديمية للبرنامج و أهداف و نواتج تعلم البرنامج

اهداف برنامج الماجستير في طب الأطفال	مواصفات الخريج
• 1.1	<i>By end of the study pediatrics master degree program the graduate must be able to understand of:</i> 1-1 Apply basic knowledge with the academic background of pediatrics.
• 1.2	1-2-Use knowledge and skills necessary to practice clinical pediatrics and child health
• 1.3	1-4 Apply fundamental knowledge of neonatal diseases
• 1.4	1-8 collect and interpret basic laboratory and imaging data in pediatrics
• 1.5	1-3 Apply fundamental knowledge of genetic diseases in children
• 1.6	1-9 Have good communication skills and attitudes towards patient and his family.
• 1.7	1.11Able to collect and analyze medical research data according to basic research rules.
• 1.8	1-5 Acquire the competence and meet the need of our local community and respond appropriately to cultural and medical needs
• 1.9	1.6. Use new technology necessary to practice clinical pediatrics. 1.15. Awareness with current problems and new



	vision in general pediatrics
• 1.10	1-12 To aware graduate with importance of continuous medical education and improvement of his skills.
• 1.11	1.10. Aware of medical ethics and legal rights of patient and his family.
• 1.12	1.13 Use available resources to doctor efficiently.
• 1.13	1.7 communicate effectively with his superior's and other team members
• 1.14	1.14. To act with integrity, credibility and work rules of noble medical profession with accept accountability.
• 1.15	1.16. Decision making in different medical problems and emergencies.

نواتج التعلم لبرنامج الماجستير في طب الأطفال									المعايير الأكاديمية لبرنامج الماجستير 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	



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									<p>أ - المعرفة والفهم : <i>By end of the study pediatrics diploma program the graduate must be able to understand and absorb all of:</i></p>
√	√	√	√	√	√	√	√	√	<p>2.1.1 Theories and fundamentals related to pediatrics as well as in related fields</p>
		√		√	√				<p>2-1-2 Mutual influence between professional practice and its impacts on the environment</p>
		√	√	√	√	√	√	√	<p>2.1.3 New Scientific developments in pediatrics, neonatology and genetics.</p>
		√			√				<p>2.1.4. Perform relevant investigative and therapeutic procedures for the pediatric patient.</p>
√		√	√		√				<p>2.1.5 Moral and legal principles of professional practice in pediatrics</p>
√				√	√				<p>2.1.6-Principles and the basics of quality in professional practice in the pediatrics.</p>
√									<p>2.1.7 Basics, ethics and methodology of scientific research in pediatrics.</p>



نواتج التعلم لبرنامج الماجستير في طب الأطفال										المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال
2-a Knowledge and understanding										
2.b.10	2.b.9	2.b.8	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1	
										بالقدرات الذهنية : <i>At end of the study diploma program in pediatrics graduate should be able to:</i> 2.2.1- Analyze and evaluate the information in pediatrics and analogies to solve problems
√			√		√	√	√	√	√	2.2.2 Solve specialized problems with the unavailability of some data
√			√			√	√	√	√	2.2.3 Link between the various professional knowledge to solve problems in pediatrics practice
				√						2.2.4 Conducting a research study or writing a systematic scientific study on a research problem.
√			√		√					2.2.5 Risk Assessment in professional practices in pediatrics.



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		√								2.2.6 Planning for the development of performance in pediatrics and neonatology.
	√									2.2.7 Professional decision-making in a variety of professional contexts.

نواتج التعلم لبرنامج الماجستير في طب الأطفال									المعايير الأكاديمية لبرنامج الماجستير 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	
									ج. مهارات مهنية وعملية <i>By end of the study diploma program in pediatrics graduate should be able to:</i>
	√	√		√	√	√	√	√	2.3.1- Master the basic and modern specialized skills in pediatrics.
√				√	√				2-3-2- Writing and evaluating professional reports
			√			√	√	√	2.3.3- Assess methods and tools to assess existing in pediatrics
√			√						2-3-4 using technology to



											serve the professional practice in all branches of Pediatrics
√							√				2.3.5 Plan to upgrading the medical performance in pediatrics.

نواتج التعلم لبرنامج الماجستير في طب الأطفال											المعايير الأكاديمية لبرنامج الماجستير في طب الأطفال
<u>2-d- General and transferred skills</u>											
2.d.11	2.d.10	2.d.9	2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1	
											د . مهارات عامة : <i>At the end of the study Diploma program in pediatrics must be a graduate able to:</i>
		√				√	√	√	√	√	2.4.1 Effective communication of all kinds.
√	√		√								2.4.2 The use of information technology to serve the professional practice.
√				√							2.4.3 Self-assessment and



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											determine the educational needs.
√	√		√	√							2.4.4 The use of different sources of information and knowledge.
		√									2.4.5 Rules and indicators to assess the performance of others.
		√			√						2.4.6 Work in different professional contexts team.
		√									2.4.7 Manage time efficiently.
√	√										2.4.8 Self and continuous learning.



ملحق 5: مصفوفة مضاهاة لمقررات البرنامج الدراسي لماجستير
طب الأطفال مع نواتج التعلم

a. Knowledge & Understanding									ILOs	
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	Courses & codes	
√	√	√	√	√	√	√	√	√	PEDI 604	Pediatrics
	√		√	√	√	√			PEDI 605	Genetics
		√		√	√	√			PEDI 606	Child health and neonatal care
								√	PEDI 601	Physiology •
				-				√	PEDI 602	Pathology •
								√	PEDI 601	Biochemistry •
								√	PEDI 602	Embryology •
								√	PEDI 601	Pharmacology •
								√	PEDI 602	Microbiology •
		√						√	PEDI 606	Community •
√										Thesis •

b. Intellectual Skills									ILOs	
2.b.10-2.b.9	2.b.	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1	Courses & codes	
√	√	√	√	√	√	√	√	√	PEDI 604	Pediatrics
	√	√		√	√		√	√	PEDI 605	Genetics
√		√				√	√	√	PEDI 606	Child health and neonatal care
	√									



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√											PEDI 601	Physiology •
√										√	PEDI 602	Pathology •
√										√	PEDI 601	Biochemistry •
											PEDI 602	Embryology •
						√	√				PEDI 601	Pharmacology •
										√	PEDI 602	Bacteriology •
√	√									√	PEDI 606	Community •
√	√		√	√								Thesis •

مهارات عملية و مهنية. Practical & Clinical Skills									HLOs	
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	Courses & codes	
									Courses	
√	√	√	√	√	√	√	√	√	PEDI 604	Pediatrics
√	√		√			√	√	√	PEDI 605	Genetics
√	√	√	√		√	√		√	PEDI 606	Child health and neonatal care
									PEDI 601	Physiology •
					√				PEDI 602	Pathology •
					√				PEDI 601	Biochemistry •
							√		PEDI 602	Embryology •
			√						PEDI 601	Pharmacology •
					√				PEDI 602	Microbiology •
√									PEDI 606	Community •
√										Thesis •



مهارات عامة d. General and transferable											ILOs	
											Courses & codes	
											Courses	
2.d.1 1	2.d.10	2.d.9	2.d. .8	2.d.7	2.d. 6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1		
√	√	√	√	√	√	√	√	√	√	√	PEDI 604	Pediatrics
√		√	√	√	√	√	√	√	√	√	PEDI 605	Genetics
√		√	√	√	√	√	√	√	√	√	PEDI 606	Child health and neonatal care
	√		√		√			√			PEDI 601	Physiology •
	√		√		√						PEDI 602	Pathology •
	√		√		√						PEDI 601	Biochemistry •
	√		√		√						PEDI 602	Embryology •
	√		√		√						PEDI 601	Pharmacology •
	√		√		√						PEDI 602	Microbiology •
	√		√		√						PEDI 606	Community •
	√		√	√				√	√	√		Thesis •