Postgraduate Program Specification for MD degree in Pediatrics

2022-2023

University: Minia **Faculty: Medicine**

Department: Peiatrics

Program specification for the year 2022-2023

Program Title and code: M.D in pediatrics, PE100

1. Basic Information:

Program Type: single

Faculty: Faculty of Medicine

Department: Pediatrics

Final award: Medical Doctorate (MD) in pediatrics

Responsible department: pediatrics

Departments involved in the program: pediatrics department, Public Health and preventive medicine department, Medical Physiology department, Pathology department.

Program duration: 3.5 Years.

Number of program courses: 5

Program management team: All staff members of pediatrics

Principal Co-Ordinator: Prof. Gehan Lotfy Abdel Hakeem

Director of the program (head of the department): Prof. Mohamed Abd El-Maboud

Internal evaluator: Prof. Samira Zein Sayed

External evaluator: prof. Faheem Mouhamed Faheem

Last date of program approval by department council: 3/4/2023

2.Program aims :

The aim of this program is to provide the postgraduate with the advanced Pediatric knowledge and skills essential for the professionalism of practice of Pediatric specialty through:

2/1- Providing recent scientific knowledge essential for the mastery of practice of pediatrics according to the international standards.

2/2- providing skills necessary for proper diagnosis and management of patients including diagnostic, problem solving and decision-making skills.

2/3- Gaining recent knowledge in management of critically ill patients and use of recent technological techniques in pediatric subspecialities.

2/4- Gaining sound ethical principles related to pediatric practice.

2/5-Enabling the candidate active participation in community needs and problems Identification

2/6- Acquiring learning abilities necessary for continuous medical education.

2/7- Enabling the candidate to use recent research methodology and to publish their researches in indexed medical journals

2/8- Enabling the candidate to communicate, transfer knowledge and lead others in the specialty of pediatrics

2/9. Using effectively and try to develop the available resources

2/10. Decision making with the available data and resources

3. Intended Learning Outcomes (ILOs)

a- Knowledge and Understanding:

By the end of the study of doctoral program in pediatrics the graduate is expected to be able to:

a.1 Describe theories, basics and updated sciences in physiology of pediatrics.

a.2 Describe basics and updated sciences in pathology of pediatric diseases.

a.3 Discuss the recent advances in biostatistics, research methodology and clinical epidemiology related to the field of pediatrics.

a.4 Discuss recent advances in etiology, clinical picture ,prevention and management of pediatric diseases according pediatric subspecialties.

a.5 List recent advances in methods of promoting health of infants and children.

a.6 list the ethical aspects of conducting scientific researches in the field of pediatrics .

a.7 Define the legal and ethical aspects of professional pediatric subspecialties practice.

a.8 Discuss the principles of quality improvement in education and professional practice in the field of pediatrics.

a.9 Explain professional practice on the environment and the methods of environmental development and maintenance.

b- Intellectual outcomes

By the end of the study of doctoral program in pediatrics the Graduate is expected to be able to:

b.1 Interpret data acquired through history taking to reach a provisional diagnosis for pediatric problems.

b.2 Select from different diagnostic alternatives the ones that help reaching a final diagnosis for pediatric problems.

b.3 Conduct research studies, that add to knowledge.

b.4 write scientific papers in the area of pediatrics.

b.5 Assess risk in professional practices in the field of pediatrics.

b.6 Plan to quality improvement in the field of medical education of pediatrics.

b.7 Compare analytical thinking approach in clinical situations related to pediatrics.

b.9 Manage scientific discussion based on scientific evidences and proofs.

b.10 Criticize research related to pediatrics.

b.11 Present data in front of experts.

c- Professional and Practical Skills

By the end of the study of doctoral program in pediatrics the graduate is expected to be able to:

C1 Examine the basic and modern professional clinical skills including thorough history taking and skillful examination

C2 Categorize methods and tools existing in pediatrics

C3 Perform non-invasive & invasive procedures used in evaluation of patient and interpret X-ray and CT films, blood gas, blood picture, bone marrow, liver and renal function reports covering the most important pediatric conditions.

C4 Use new technological means and tools that serve professional practice

C5 Plan for the development of performance in the field of pediatric

C6 Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.

d- General and Transferable Skills

By the end of the study of doctoral program in pediatrics, the Graduate is expected to be able to:

d. 1 Communicates effectively by different types of communication skills.

d. 2 Use appropriate computer program packages and the internet to serve the development of professional practice.

d. 3 Teach others and evaluate and improve their performance.

d.4 Council families and educate patients about their conditions.

d. 5 Use different sources of information and knowledge.

d .6 Work successfully in a team and also as a team leader.

d.7 Manage scientific meetings according to the available time.

d.8 Design logbooks.

d.9 Design standardized protocol for pediatric patients' management.

d.10 Compute with others for improvement of health services

4.Program academic reference standards

Faculty of Medicine, Minia University adopted the general national academic reference standards provided by the national authority for quality assurance and accreditation of education (NAQAAE) for all postgraduate programs. (Faculty Council Decree No.6854, in its cession No.177 Dated: 18/5/2009). {Annex 1}.

• Faculty of Medicine, Minia University has developed the academic standards (ARS) for Medical Doctorate (MD) program and was approved in faculty Council decree No.7528, in its session No.191, dated: 15-3-2010), last update: 20-2-2023 {Annex I}.

• The pediatric department has developed the intended learning outcomes (ILOs) for doctorate (MD) program in pediatrics and the Date of program specifications first approval was by department council: 13-5-2013, last update: 6-4-2023{Annex 2}.

5 • Program External References:

not applicable

6. Curriculum structure and contents

Program duration: (3.5 years) at least

A. Program courses: 5 compulsory courses

 # Total number of hours 2169 hours:

Academic 260(12%), # Practical 1897 (88%)

First part :

Academic 102 (69.4%) # practical 25(17%) # total 147 hour #total 24 weeks.

Second part:

Academic 165 (8 %) # practical 1865(92%) # Total hours 2030 #total 48 weeks.

Compulsory courses: 100%

Optional courses: N/A

Elective courses: N/A

Basic courses: 147 hours (6.7%)

Humanity and social courses: 0(0%)

Specialized courses: 2030 h (93.3%)

	Course name	Number of hours			level
		Lectures	Practical/ clinical	Total	
Community 1	**Medical statistics and research methodology**	**30**	**15**	**45**	**First part**
Community2	**Use of Computer in medicine**	**20**	**10**	**30**	
Pathology	**Pathology**	**24**	**-**	**24**	
Medical Physiology	**Medical Physiology**	**20**	**-**	**48**	

Pediatrics	**Pediatric**	**165**	**1865**	**2030**	**Second part (specialized course & specialized clinical work)**
	Thesis and at least one published research				**Third part**

Tab.: Curriculum structure and contents

1- General requirement:

7- Program admission requirements:

Candidates should have:

a-MBBCh degree from any Egyptian faculty of medicine or equivalent degree from medical schools abroad approved by the ministry of higher education.

b-Master's degree in pediatrics.

c-Follow postgraduate regulatory roles of Minia faculty of medicine.

d- English Language (with minimal score of 500 in TOFEL or equivalent).

2-Spicific requirement:

A-Candidates graduated from Egyptian universities should be have at least "Good

Rank" in their final year / cumulative years examination and grade "Good Rank "in Community Medicine course too.

B-Master degree in pediatrics with at least" Good Rank".

C-Candidate should know how to speak& write English well.

D-Candidate should have computer skill.

8- Regulations for progression and program completion:

Duration of program is (3.5 years), starting from registration till the acceptance of the thesis; divided to:

First Part: (≥6 months):

- Program-related basic science & Research Methodology, Biostatistics and computer & SPSS.
- At least six months after registration should pass before the student can ask for examination in the 1st part.
- Two sets of exams: 1st in May — 2nd in November.
- For the student to pass the first part exam, a score of at least 60% in each curriculum is needed.

Second Part: (≥24 months):

- Program related specialized science of internal medicine courses and ILOs. At least 24 months after passing the 1st part should pass before the student can ask for examination in the 2nd part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; as following:
    - Training courses
    - Conference attendance
    - Thesis discussion
    - Workshops
    - Journal club
    - Case presentation
    - Seminars
    - Morbidity and Mortality conference
    - Self-education program
    - Two sets of exams: 1st in May— 2nd in November.
    - At least 60% of the written exam is needed to be admitted to the oral and practical exams.

- 4 times of oral and practical exams are allowed before the student has to re-attend the written exam.

Thesis (24-48 months):

- Could start after registration and should be completed, defended and accepted after passing the 2nd part final examination and after passing of at least 24 months after documentation of the subject of the thesis.
- Accepting the thesis is enough to pass this part.
- Accepting the thesis occurs after publishing two-thesis based papers ag least one of them published in an international journal with impact factor >0.5 then thesis discussion and this is enough to pass this part.

9. Teaching and Learning Methods

1. Lectures
2. Seminar Presentation and Journal Club
3. Group Discussions
4. Grand Rounds
5. Pediatric Conferences
7. Skill teaching in ICU, emergency and ward settings
8. Attend Combined clinics and rounds for at least one month.
9. Self-study, assignments and use of internet
10. Bedside teaching rounds in ward.
11. OPD & Follow up clinics
12. Long and short case presentation

10. Methods of student assessments and Weighting of assessment:

Method of assessment	The assessed ILOs

1-**Research assignment**	
2-Paper based exam Exams:	
Paper 1 and paper 2 include:	A4 to A9
• Short essay	B1 to B11
• MCQs	
• Problem solving	
Paper 3: Commentary	B1 to B11 C1 to C18
3-Practical Exams	
Clinical Exams(long & 2 short cases).	C1 to C18 D1 to D 10
4-Oral Exams.	A1 to A9

Weighting assessment:

Final-term Examination: 100% (Passing in the written exam is a condition to attend the following exams.

Clinical Examination & Oral Examination: 100%

Course	Oral Exam	Written Exam	Practical	Total
Physiology	**100**	**100**	**-**	**200**
Pathology	**100**	**100**	**-**	**200**
statistics and research methodology	**100**	**100**	-	**200**
Computer	**100**	**100**	**100**	**300**
pediatrics	**100**	**300**	**100**	

11.Methods of program evaluation

Evaluator	Tool	Sample
1-Staff	**questionnaire**	**100%**
2- Senior students	**questionnaire**	**30%**
3- Alumni	**questionnaire**	**No alumni graduated**
4- Stakeholders (members of the medical syndicate, ministry of health, community members in faculty council)	**Interview**	**Not done yet**
5-External Evaluator(s) (External Examiner(s)	**Report**	**Once before implementation**
6- Internal audit	**Visits**	**Not done yet**

Head of department signature

Prof. Mohd A. Maaboud

1.Graduate attribute

Matrix between General Academic Reference Standards and Faculty Academic Reference Standard and program ILOS

برامج الد كتوراه **NAQAAE**	**Faculty** **Doctorate (MD) Program**
1. مواصفات الخريج : خريج برنامج الدكتوراه في أي تخصص يجب أن يكون قادرا على :	**1. Graduate attributes:**

	Graduate of doctorate (MD) program in any specialty should be able to:
1.1. إتقان أساسيات ومنهجيات البحث العلمي .	1.1. Mastery of basic research skills and types of study design.
2.1. العمل المستمر علي الإضافة للمعارف في مجال التخصص.	1.2. Contribute to development, application, and translation of new medical knowledge in his scholarly field through research.
3.1. تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص والمجالات ذات العلاقة .	1.3. use analytical and critical skills in observing, collecting and interpreting data.
4.1.دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا ومطورا للعلاقات البينية بينها .	1.4. Integrate biomedical sciences with clinical information to explore scientific basis of medical practice for improvement of management of diseases.
5.1. إظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة في مجال التخصص .	1.5. Demonstrate an awareness of current health problems and recent theories in his scholarly field
6.1.تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها .	1.6. Identify and create solutions for occupational problems and medical malpractice conditions.
7.1.إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص	1.7. perform a wide range of professional skills in his scholarly field.
8.1.التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية .	1.8. Develop and improve new methods and approaches in the professional medical practice of the specific field.

1.9. Use information technology to improve his professional medical practice including online medical information manage information and researches.	9.1.استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
1.10. communicate effectively as a member or leader of health care group or other professional group and gain leadership skills.	10.1. التواصل بفاعلية وقيادة فريق عمل في سياقات مهنية مختلفة .
1.11. Make informed decisions based on available data (e.g. patient information, up to date scientific evidence and clinical judgement).	11.1. اتخاذ القرار في ظل المعلومات المتاحة .
1.12. Effective management, development & improvement of available resources and have the competency to get new resources.	12.1.توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على إيجاد موارد جديدة .
1.13. Be aware of his community needs related to his field and have the ability to improve & maintain health care and carryout system-based improvement.	13.1.الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة .
1.14. Demonstrate ethical behavior, moral reasoning, honesty, integrity, dependability, and commitment to service and health equity.	14.1.التصرف ب ما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة .
1.15. Critically reflect on one's own performance to set learning and improving goals and sharing his knowledge.	1.15.الالتزام بالتنمية الذاتية المستمرة ونقل علمه و خبراته للآخرين .

- Academic standards:

٢. المعايير القياسية العامة: **NAQAAE General Academic Reference Standards "GARS" for MD Programs**	**2. Faculty Academic Reference Standards (ARS) for MD Program**
٢,١. المعرفة والفهم: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدراية بكل من:	**2.1. Knowledge and understanding:** Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:
٢,١,١. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.
٢,١,٢. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.
٢,١,٣. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medicolegal principles of medical practice.
٢,١,٤. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.
٢,١,٥. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.

2.2. Intellectual skills: Upon completion of the doctorate program (MD), the graduate must be able to:	٢,٢. المهارات الذهنية : بانتهاء دراسة برامج الدكتوراه يجب أن يكون الخريج قادراً علي :

2.2.1 Analysis and evaluation of information to correlate and deduce from it.	.2.2.1 تحليل وتقيم المعلومات في مجال التخصص والقياس عليها والاستنباط منها
2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	2.2.2. حل المشاكل المتخصصه استنادا على المعطيات المتاحه
2.2.3. Carryout research projects related to his scholarly field.	2.2.3.اجراء دراسه بحثيه تضيف الى المعارف
2.2.4. Write and publish scientific papers.	2.2.4.صياغة اوراق علمية
2.2.5. Assess risk in professional medical practice.	2.2.5. تقييم المخاطر فى الممارسات المهنيه
2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	2.2.6. التخطيط لتطوير الاداء فى مجال التخصص
2.2.7. Making professional decisions in different professional contexts.	2.2.7. اتخاذ القرارات المهنيه فى سياقات مهنيه مختلفه
2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	2.2.8.الابتكار / الابداع اظهار الاهتمام بالاكتشاف العلمي والابتكار من خلال المشاركة النشطة في البحثالعلمي
2.2.9. Using Evidence-based strategies to during discussion or teaching others.	2.2.9. الحوار والنقاش المبني علي البراهين والأدلة

2.3.المهارات المهنية بانتهاء دراسة برامج الدكتوراه يجب أن يكون الخريج قادراء علي :	**2.3. Professional skills:** Upon completion of the doctorate program (MD), the graduate must be able to:
*2.1.3.*اتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.
.2.3. 2 كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.
.3.3. 2تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and improve the methods and tools in the specific field
.2.3.4استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice
5.3.2. التخطيط لتطوير الممارسة المهنية وتنمية أداء الأخرين	2.3.5. Planning for the development of professional practice and improve of the performance of others
٢,٤. المهارات العامة والمنتقلة: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على :	**2.4. General and transferable skills** Upon completion of the doctorate program (MD), the graduate must be able to:
٢,٤,١. التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.
٢,٤,٢. استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.
٢,٤,٣. تعليم الآخرين وتقييم أداءهم	2.4.3. Demonstrate effective teaching and evaluating others.
٤,٢,٤. التقييم الذاتي والتعلم المستمر.	2.4.4. Self-assessment and continuous learning.

٢,٤,٥. استخدام المصادر المختلفة للحصول على المعلومات والمعارف.	2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth
٢,٤,٦. العمل في فريق وقيادة فرق العمل	2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.
2 ٢,٤. ٧.. إدارة اللقاءات العلمية والقدرة على إدارة الوقت	2.4.7. Manage of scientific meetings and the ability to manage Time effectively.

Annex (2): correlation between General Academic Reference Standards GARS, Faculty Academic Reference Standards (ARS) and programme ILOs

2.المعايير القياسية العامة **NAQAAE General Academic Reference Standards "GARS" for MD Programs**	**2. Faculty Academic Reference Standards (ARS) for MD Program**	**Program ILOs**
٢,١. المعرفة والفهم: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدراية بكل من:	**2.1. Knowledge and understanding:** Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:	**1. Knowledge and understanding:**
٢,١,١. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.	a.1 Describe theories, basics and updated sciences in physiology of pediatrics. a.2 Describe basics and updated sciences in pathology of pediatric diseases. a.3 Discuss the recent advances in biostatistics ,research methodology and clinical epidemiology related to the field of pediatrics. a.4 Discuss recent advances in etiology ,clinical picture ,prevention and management of pediatric diseases according pediatric subspecialties.
٢,١,٢. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.	a.6 Identify the ethical aspects of conducting scientific research in the field of pediatrics .
٢,١,٣. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medicolegal principles of medical practice.	a.7 Discuss the legal and ethical aspects of professional pediatric subspecialties practice .

٢,١,٤. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.	a.8 Discuss the principles of quality improvement in education and professional practice in the field of pediatrics.
٢,١,٥. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.	a.5 List recent advances in methods of promoting health of infants and children. a.9 Explain professional practice on the environment and the methods of environmental development and maintenance.
٢,٢. المهارات الذهنية: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	**2.2. Intellectual skills:** Upon completion of the doctorate program (MD), the graduate must be able to:	**2.2. Intellectual skills:**
2.2.1. تحليل وتقيم المعلومات في مجال التخصص والقياس عليها والاستنباط منها	2.2.1 Analysis and evaluation of information to correlate and deduce from it.	b.7 Compare analytical thinking approach in clinical situations related to pediatrics.
2.2.2. حل المشاكل المتخصصه استنادا على المعطيات المتاحه	2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.	b.1 interpret data acquired through history taking to reach a provisional diagnosis for pediatric problems. b.2 Select from different diagnostic alternatives the ones that help reaching a final diagnosis for pediatric problems.

2.2.3.اجراء دراسه بحثيه تضيف الى المعارف	2.2.3. Carryout research projects related to his scholarly field.	b.4 Write scientific papers in the area of pediatrics.
2.2.4.صياغة اوراق علمية	2.2.4. Write and publish scientific papers.	b.3 Conduct research studies, that add to knowledge.
2.2.5. تقييم المخاطر فى الممارسات المهنيه	2.2.5. Assess risk in professional medical practice.	b.5 Assess risk in professional practices in the field of pediatrics.
2.2.6. التخطيط لتطوير الاداء فى مجال التخصص	2.2.6. Establish goals, commitments and strategies for improved productivity and performance.	b.6 Plan to quality improvement in the field of medical education of pediatrics.
2.2.7. اتخاذ القرارات المهنيه فى سياقات مهنيه مختلفه	2.2.7. Making professional decisions in different professional contexts.	b.2 Select from different diagnostic alternatives the ones that help reaching a final diagnosis for pediatric problems. b.11 Present data in front of experts.
2.2.8. اظهار الاهتمام بالاكتشاف العلمي والابتكار من خلال المشاركة النشطة في البحثالعلمي	2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.	b.10 Criticize research related to pediatrics.
2.2.9. الحوار والنقاش المبني علي البراهين والأدلة	2.2.9. Using Evidence-based strategies to during discussion or teaching others.	b.9 Manage scientific discussion based on scientific evidence and proofs.
2.3.المهارات المهنية بانتهاء دراسة برامج الدكتوراه يجب أن يكون الخريج قادراً علي :	**2.3. Professional skills:** Upon completion of the doctorate program (MD), the graduate must be able to:	**2.3. Professional skills:**
٢,١,٣. اتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.	**C1** Examine the basic and modern professional clinical skills including thorough history taking and skillful examination

٢ .٢,٣. كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.	**C6** Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets.
٢ .٣,٣. تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and improve the methods and tools in the specific field	**C2** Categorize methods and tools existing in pediatrics **C3** Perform available non-invasive & invasive procedures used in evaluation of patient
2.3.4.استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice	**C4** Use new technological means and tools that serve professional practice
5.3.2. التخطيط لتطوير الممارسة المهنية وتنمية أداء الأخرين	2.3.5. Planning for the development of professional practice and improve of the performance of others	**C5** Plan for the development of performance in the field of pediatric
٢,٤. المهارات العامة والمنتقلة: بانتهاء دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على :	**2.4. General and transferable skills** Upon completion of the doctorate program (MD), the graduate must be able to:	**2.4. General and transferable skills**
٢,٤,١. التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.	d. 1 Communicates effectively by different types of communication skills.
٢,٤,٢. استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.	d. 2 Use appropriate computer program packages and the internet to serve the development of professional practice.
٢,٤,٣. تعليم الآخرين وتقييم أداءهم	2.4.3. Demonstrate effective teaching and evaluating others.	d. 3 Teach others and evaluate and improve their performance. d.10 Compute with others for improvement of health services
٤,٢,٤. التقييم الذاتي والتعلم المستمر.	2.4.4. Self-assessment and continuous learning.	d.4 Council families and educate patients about their conditions.

٢,٤,٥. استخدام المصادر المختلفة للحصول على المعلومات والمعارف.	2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth	d. 5 Use different sources of information and knowledge. d.9 Design standardized protocol for pediatric patients' management.
٢,٤,٦. العمل في فريق وقيادة فرق العمل	2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.	d .6 Work successfully in a team and also as a team leader .
٢,٤. ٧ إدارة اللقاءات العلمية والقدرة على إدارة الوقت	2.4.7. Manage of scientific meetings and the ability to manage time effectively.	d.7 Manage scientific meetings according to the available time. d.8 Design logbooks.

14.Matrix between program courses and Program ILOs

Courses (List of courses in 1st and 2nd parts)		ILOS																			
		Knowledge & understanding									Intellectual Skills										
	A1	**A 2**	**A3**		**A4**	**A5**	**A6**	**A7**	**A 8**	**A 9**	**B1**	**B2**	**B3**	**B 4**	**B 5**	**B 6**	**B7**	**B 8**	**B 9**	**B10**	**B1 1**
1.Use of computer in medicine 1st part			**X**		**X**								**X**								
2.Medical statistics & research methodology 1st part							**X**						**X**	**X**					**X**		
3.Pathology		**X**	**X**																		
4.Medical Physiology																					
5. pediatric		**X**	**X**		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**

Courses (List of courses in 1st and 2nd parts)	Program Intended Learning Outcomes (ILOs)															
	Skills															
	Professional & Practical skills						General & Transferable Skills									
	C1	C2	C3	C4	C5	C6	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
1. Use of computer in medicine 1st part						X		X								X
2. Medical statistics & research methodology 1st part						-										
3. Pathology						X										
4. Medical Physiology						-										
5. pediatric	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

University: Minia Faculty: Medicine

Department: Pediatrics Course Title: Pediatric

Course Code: PE100

15. Matrix between teaching & learning methods and program ILOS

	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lecture	A.1 TO A9	B.1 TOB.11		
Practical			C1 to C6	
Assignment				D.1 TO D.10

16. Matrix between methods of student assessment and program ILOS

+	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	B	C	D
Paper based exam	A.1 to A.9	B.1 to B.11		
Practical exam: Short case Long case			C1 to C6	
Oral Exam	A.1 to A9	B.1 to B.11		

PUBLIC HEALTH COURSE SPECIFICATIONS

Course specification of:"Use of Computer in Medicine"in MD degree

University: Minia

Faculty: Medicine

Department offering the course: Public health and preventive medicine department

Department offering the programme: All Clinical and Academic Postgraduate MD Students

Programme(s) on which the course is given: First part MD for all postgraduates

Academic year/ Level: Firstpart of MD

1. Course Information		
Academic Year/level: **First part MD**	COURSE TITLE: **Use of Computer in Medicine**	Code: **PE 100**
● NUMBER OF TEACHING HOURS: - LECTURES: 20 HOURS - PRACTICAL/CLINICAL: 10 HOURS - TOTAL: 30 HOURS		
2. Overall Aims of the course	***By the end of the course the student must be able to:*** 1. Recognize knowledge about the software and their applications in Medicine 2. Gain skills necessary for using and managing heath care information systems	
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***		

A. Knowledge and understanding	A.1. Define each part of computer hardware and its function A.2. Identify basic understanding of various computer applications in medicine - for instruction, information managing, and computer based medical record, etc. A.3. Define telemedicine and its importance A.4. Recognize importance of health information technology in improvement of healthcare A.5. Describe electronic medical records and obstacles facing it A.6. Identify the concept of big data analysis
B. Intellectual Skills	B.1. Criticize adoption of telemedicine B.2. Discover factors constraining adoption of telemedicine
C. Professional and Practical Skills	C.1. Design framework for understanding of health information system performance
D. General and transferable Skills	D.1. Utilize computers in conducting research D.2. Appraise adoption of telemedicine D.3. Discover skills to carry out the process of improving health information system performance

4. Course Contents

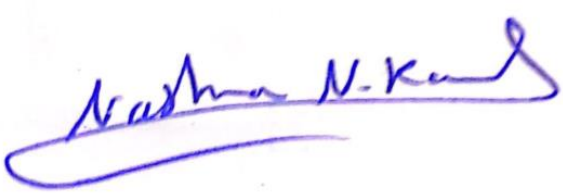
Topic	**No. of hours**	**Lecture**	**Tutorial/ Practical**
Use of Computer in Medicine			
General concepts Introduction to Microsoft PowerPoint	6	4	2
Health Information Systems (HIS)	6	4	2
Telemedicine	6	4	2
Software Used in the Health Care	6	4	2
Big Data Analysis in Health	6	4	2
Total	**30**	**20**	**10**

5. Teaching and Learning Methods	**Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online**

	learning. 60% of study method is offline and 40% of study is online **Online learning materials are available at Minia University site** ▪ Lectures: Face to face lectures, Pre-recorded video lectures ▪ Practical lessons ▪ Assignment ▪ Online quizzes
6. Teaching and Learning Methods for students with limited Capacity	• Outstanding student rewarded certificate of appreciation due to high level of achievement • Limited students divided into small group to make learning more effective
7. Student Assessment	
A. Student Assessment Methods	7.1- **Research assignment:** to assess general transferable skills, intellectual skills. 7.2- **Written exams:** • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. 7.3- **Practical Exams:** to assess practical skills, intellectual skills. 7.4- **Oral Exams:** Oral exams to assess knowledge and understanding, attitude, communication 7.5- **Structured oral exams:** to assess knowledge.
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28 Assessment 3: Practical exam week: 24-28
C. Weighting of Each Method of Assessment	Final Written Examination 100% Oral Examination 100% Practical Examination 100%

	Total 100%
8. List of References	
A. Course Notes/handouts	Department notes, lectures and handouts
B. Essential Books	Essential Medical Statistics, Betty R. Kirkwood and J. A. Sterne (2000), 2nd edition
C. Recommended Textbooks	Data Management and Analytics for Medicine and Healthcare: Begoli, Edmon, Fusheng Wang, and Gang Luo. Springer, 2017.
D. Periodicals, websites	- National Institutes of Health: http://www.nih.gov - American Medical Informatics Association: http://www.amia.org/

- **Course Coordinators:**
- ➢ **Coordinators: Lecturers:** Dr / Shaimma Mahmoud, Dr/ Chrestina Monir
- **Head of Department**: **Professor Dr.** Nashwa Nabil Kamal



Date of program specifications 1st approval by department council:
13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023

(11) نموذج رقم

جامعة / أكاديمية : المنيا كلية / معهد : الطب قسم : الصحة العامة والطب الوقائي	مسمي المقرر	Use of Computer in Medicine
	كود المقرر	PE 100

Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	**Week No.**	**Intended Learning Outcomes (ILOs)**			
		A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
		A	**B**	**C**	**D**
Use of Computer in Medicine					
General concepts Introduction to Microsoft PowerPoint		A.1, A.2,			D.1
Health Information Systems (HIS)		A.4, A.5		C1	D.3
Telemedicine		A.3	B.1, .2		D.2
Software Used in the Health Care		A.5, A.6			D.1
Big Data Analysis in Health		A.6			

Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	A.1 to A.6	B.1,		
Practical			C1	
Assignment	A.4	B.2		D1.D.2,D3

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Written paper-based exam	A.1, to A.6	B.1		
Practical computer exam (For SPSS, PowerPoint)			C1	D.1
Oral Exam	A.4, A..6	B.2	C.1	D.2, D.3

Course specification of "Medical Statistics and Research Methodology"In MD degree

University: Minia

Faculty: Medicine

Department offering the course: Public health and preventive medicine department

Department offering the programme: All Clinical and Academic Postgraduate MD Students

Programme(s) on which the course is given: First part MD for all postgraduates

Academic year/ Level: First part of MD

1. Course Information		
Academic Year/level: **First part MD**	Course Title: **Medical Statistics and Research Methodology**	Code: **PE100**
NUMBER OF TEACHING HOURS: - LECTURES: 30 HOURS - PRACTICAL/CLINICAL: 15 HOURS - TOTAL: 45 HOURS		
2. Overall Aims of the course	***By the end of the course the student must be able to:*** 1. Gain skills necessary for proper practice in the field of Research Methods including diagnostic, problem solving and decision-making skills. 2. Apply ethical principles of scientific research with good awareness about patient´s rights. 3. Use precisely the research methodology in researches 4. Influence the students to adopt an analytical thinking for evidence-based medicine 5. Enable graduate students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data 6. To use precisely computer programs SPSS, Epi Info	

	and Excel in data analysis
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***	
A. Knowledge and understanding	A.1. Define terms of research methodology. A.2. Describe the spectrum of research methodology. A.3. Explain tie strategies and design of research. A.4. Describe the study design, uses, and limitations. A.5. Explain evidence-based Medicine A.6. Define causation and association. A.7. Tell the principles and fundamentals of ethics. A.8. Describe the different sampling strategies A.9. Summarize the advantages and disadvantages of different sampling strategies A.10. Summarize different methods of samples size calculation A.11. Recognize the sources and the recent methods in data collection and analysis. A.12. Identify the types of variables A.13. Identify types of tabular and graphic presentation of data A.14. Describe the normal curves and its uses A.15. Identify the characters of normal distribution curve A.16. Identify measures of central tendency and measures of dispersion A.17. Explain regression analysis, its use and differentiate its types A.18. Define the screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests A.19. Explain the usefulness of screening tests

B. Intellectual Skills	B.l. Apply research methods to different community health problems. B.2. Apply appropriate research strategies for use. B.3. Select appropriate research methods. B.4. Teach and advocate appropriately in the research design. B.5. Describe the normal curves B.6. Describe and summarize data B.7. Select the proper test of significance for a specific data. B.8. Interpret selected tests of significance and the inferences obtained from such tests
C. Professional and Practical Skills	C.1. Plan a research proposal for community diagnosis. C.2. Design questionnaires. C.3. Conduct research. C.4. Judge association and causation. C.5. Criticize for bias and confounding factors C.6. Design data entry file C.7. Validate data entry C.8. Manage data files C.9. Construct tables and graphs C.10. Calculate different samples sizes C.11. Calculate measures of central tendency and measures of dispersion C.12. Calculate sensitivity, specificity, and predictive values
D. General and transferable Skills	D.l. Lead a research team to conduct a specific study. D.2. Take part and work coherently with his associates to in research. D.3. Write scientific papers. D.4. Appraise scientific evidence D.5. Analyze and interpret data D.6. Use standard computer programs for statistical analysis effectively

4. Course Contents			
Topic	**No. of hours**	**Lecture**	**Tutorial/ Practical**
Research methods			
<u>Introduction:</u> - Introduction to research. - Terminology and Rationale - Originality		3	
- Study design: -Cross sectional study and the prevalence rate -Cohort study, incidence rate, relative & attributable risk -Case-control study, Odd's ratio sampling -Experimental study and clinical trials		4	
- Sources of Errors in Medical Research **- Bias and confounding and its Control.**		3	
- Validity and reliability		2	
- The questionnaire design		2	
- Writing the Research Paper or Manuscript **- Protocol Writing**		2	2
- Critic technique for the literature review		2	2
- Association and causation		1	
- Evidence -based approach in medical practice		2	1
- Ethics of medical research		2	
Statistics			
Sampling		1	
Introduction to Sample Size Calculation		1	1
Data presentation		1	1
Tests of significance		2	
Introduction to SPSS		1	1
Proportion test			1
Chi-square test			1

Student T test, Paired T test			1
ANOVA test			1
Correlation (simple and multiple)			1
Regression			1
Screening		1	1
Total		**30**	**15**

5. Teaching and Learning Methods	**Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online learning. 60% of study method is offline and 40% of study is online** **Online learning materials are available at Minia University site** ▪ Lectures: Face to face lectures, Pre-recorded video lectures ▪ Practical lessons ▪ Assignment ▪ Online quizzes
6. Teaching and Learning Methods for students with limited Capacity	● Outstanding student rewarded certificate of appreciation due to high level of achievement ● Limited students divided into small group to make learning more effective
7. Student Assessment	
D. Student Assessment Methods	7.1- **Research assignment:** to assess general transferable skills, intellectual skills. 7.2- **Written exams:** • Short essay: to assess knowledge. • Commentary: to assess intellectual skills.

	7.3- **Practical Exams:** to assess practical skills, intellectual skills. 7.4- **Oral Exams:** Oral exams to assess knowledge and understanding, attitude, communication 7.5- **Structured oral exams:** to assess knowledge.
E. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28 Assessment 3: Practical exam week: 24-28
F. Weighting of Each Method of Assessment	- Final Written Examination 100% - Oral Examination 100% - Practical Examination 100% - Total 100%
8- List of References	
A. Course Notes/handouts	- Department notes, lectures and handouts
B. Essential Books	- The Lancet Handbook of Essential Concepts in Clinical Research
C. Recommended Textbooks	***Research methods:*** - **Introducing Research Methodology**; A Beginner's Guide to Doing a Research Project - **Understanding Clinical Research**, Renato Lopes and Robert Harrington; ISBN-10: 0071746781 | ISBN-13: 978-0071746786 - **Users' guides to the medical literature: a manual for evidence-based clinical practice:** Guyatt, G., D.

	Rennie, M. Meade and D. Cook (2002), AMA press Chicago. - **Research Methods in Community Medicine:** Surveys, Epidemiological Research, Program Evaluation, Clinical Trials, 6th Edition Joseph Abramson, Z. H. Abramson ***Computer:*** - Discovering statistics using IBM SPSS statistics, Field, A. (2013). sage. - Medical Statistics: A Guide to SPSS, Data Analysis and Critical Appraisal, Belinda Barton, Jennifer Peat - 2nd EditionEveritt, Brian S. - Medical statistics from A to Z: a guide for clinicians and medical students. Cambridge University Press, 2021. - Bowers, David. Medical statistics from scratch: an introduction for health professionals. John Wiley & Sons, 2019. - Aviva, P. (2005): Medical Statistics at a Glance, Blackwell Company, 2nd , ed., Philadelphia
D. Periodicals, websites	- https://phrp.nihtraining.com/users/login.php - http://www.jhsph.edu/ - Journal of Biomedical Education - https://lagunita.stanford.edu/courses/Medicine/MedStats-SP/SelfPaced/about?fbclid=IwAR3n

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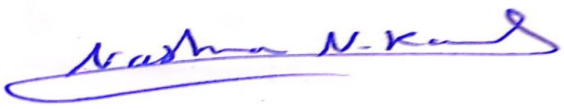
- **Course Coordinators: Lecturers: Dr / Chrestina Monir, Dr Shaimma Mahmoud**
  Head of Department: Professor Dr. Nashwa Nabil Kamal



Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6 / 3 / 2023

Medical Statistics and Research Methodology	مسمي المقرر	جامعة / أكاديمية : المنيا كلية / معهد : الطب قسم : الصحة العامة والطب الوقائي
PE 100	كود المقرر	

Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Introduction : - Introduction to research. - Terminology and Rationale - Originality		A.1, A.2,			
- Study design :		A.3, A.4,	B.l, B.2,	C.1,	

-Cross sectional study and the prevalence rate -Cohort study, incidence rate, relative & attributable risk -Case-control study, Odd's ratio sampling -Experimental study and clinical trials			B.3, B.4,		
- Sources of Errors in Medical Research **- Bias and confounding and its Control.**			B.3,	C.5	
- Validity and reliability					
- The questionnaire design				C.2,	
- Writing the Research Paper or Manuscript **- Protocol Writing**			B.3,	C.3,	D.1, D.2, D.3
- Critic technique for the literature review					

- Association and causation		A.6,		C.4,	
- Evidence -based approach in medical practice		A.5,			
- Ethics of medical research		A.7			
Statistics					
Sampling		A.8, A.9, A.11			D.4
Introduction to Sample Size Calculation		A.10		C.10	D.4
Data presentation		A.13, A.14	B.6	C.9	D.4
Tests of significance		A.15, A16	B.5	C.11	D.4
Introduction to SPSS		A.12	B.6	C.6, C7, C8	D.5, D.6
Proportion test		A.11	B.7, B8		D.5, D.6
Chi-square test		A.11	B.7, B8		D.5, D.6
Student T test, Paired T test		A.11	B.7, B8		D.5, D.6
ANOVA test		A.11	B.7, B8		D.5, D.6
Correlation (simple and multiple)		A.11	B.7, B8		D.5, D.6
Regression		A.17	B.7, B8		D.5, D.6
Screening		A.18, A.19	B.7, B8	C.12	D.4

Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lecture	A.1, A.2, A.3, A.4, A.5, A.6, A.7 , A.8,A9,A10,A11,A12,A13 A.14, A.15, A.16,A17, A.18	B.1, B.2, B.3, B.4, B5,B.6, B.7, B.8		
Practical			C1, C.3, C4, C.5, C.6, C.7, C.8. C.9, C.10, C11,C.12	
Assignment	A.11, A.13, A.18	B.7, B.8	C.2, C.6, C.8, C.9, C.10, C.12	D.1, D.2., D.4, D.5, D.6

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Written paper-based exam	A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.14, A.15, A16, A18	B.3, B.5,		
Practical exam (Statistical exam)			C.1, C.2, C.5, C.6, C.7,C.8, C.9, C.10, C.11, C.12	
Oral exam	A.10, A11, A.12, A13, A.15, A.16, A.17, A18	B.1, B.2, B.6, B.7, B.8		D.1, D.2, D.5, D.6

Test blueprint for Uses of computer in Medicine course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (Percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Use of Computer in Medicine							
General concepts Introduction to Microsoft PowerPoint	4	20%	6	4	2	30%	30%
Health Information Systems (HIS)	4	20%	4	4		20%	15%
Telemedicine	4	20%	6	2	4	25%	30%
Software Used in the Health Care	4	20%	5	4	1	20%	15%
Big Data Analysis in Health	4	20%	1	1		5%	10%
Total	20	100%	20			100%	100%

Test blueprint for Research methodology course

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks (percentages)	Modified marks (Percentages)
				Knowledge	Intellectual		
Research							
Introduction: - Introduction to research. - Terminology and Rationale - Originality	3	10%	5	4	1	7%	5%
- Study design	4	13.3%	8	3	5	17%	17%
- Sources of Errors in Medical Research - Bias and confounding and its Control.	3	10%	4	2	2	13%	10%
- Validity and reliability	2	6.67%	3	2	1	7%	5%
- The questionnaire design	2	6.67%	3	1	2	5%	5%
- Writing the Research Paper or Manuscript - Protocol Writing	2	6.67%	4	1	3	13%	10%
- Critic technique for the literature review	2	6.67%	2	1	1	7%	5%
- Association and causation	1	3.33%	3	2	1	7%	8%
- Evidence - based approach in medical practice	2	6.67%	1	1		3%	5%
- Ethics of medical research	2	6.67%	2	2		3%	6%
Statistics							

Sampling	1	3.33%	2	1	1	4%	4%
Introduction to Sample Size Calculation	1	3.33%	1	1		2%	2%
Data presentation	1	3.33%	3	2	1	5%	4%
Tests of significance	2	6.67%	2	1	1	8%	8%
Introduction to SPSS	1	3.33%	1	1		3%	3%
Screening	1	3.33%	2	1	1	3%	3%
Total	**30**	**100%**					**100%**

جامعة/أكاديمية : .....المنيا.....

كلية / معهد: .....الطب البشري .....

قسم: .....الفسيولوجيا الطبية.....

Medical Physiology Course Specifications

For 1st Part (MD) Degree in Pediatrics

University: Minia

Faculty: Medicine

Faculty offering the program: Faculty of Medicine.

Department offering the course: Medical Physiology Department.

Program(s), on which the course in given: MD Degree in Pediatrics.

Major or minor element of program(s): Medical Physiology.

Academic year/level: 1st part MD degree in Pediatrics.

Date of specification approval: 2022-2023 Last update:2023

Basic Information

Title: Physiology course specifications for 1st part MD degree of Pediatrics

Code: PE100 **Credit Hours:** Not applicable

Lectures: 2 hours / week

Tutorial/Practical: Not applicable

Professional information

OVERALL AIM OF COURSE:

The aim of the course is to provide the postgraduate students with sufficient and detailed basic knowledge about the physiological principles that help in understanding the underlying mechanisms for pediatric diseases that help in better interpretation of symptoms, investigations and management.

INTENDED LEARNING OUTCOMES OF COURSE (ILOs)

A. Knowledge and Understanding:

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

A1. Physiology of Blood:

1.1. Discuss in details composition of blood and general functions.

1.2. Explain in details RBCs structure, formation and related diseases.

1.3. Describe in details blood groups Rh factor and precautions of blood transfusion.

1.4. Describe in details immune system and mechanisms of certain immunological diseases

1.5. Discuss in details the mechanisms of Haemostasis and pediatric hemostatic disorders.

A2. Physiology of Cardiovascular System (CVS):

2.1. Discuss Heart rate and its regulation.

2.2. Describe physiology of normal heart sounds and ECG.

2.3. Describe ABP and its regulation.

2.4. Explain COP and factors affecting it**.**

2.5. Recognize special circulations (capillary and body fluid formation).

A3. Physiology of Central Nervous System and autonomic nervous system:

3.1. Identify function of NS and clinical related pediatric disorders.

3.2. Discuss Motor function of NS, and clinical related pediatric disorders.

3.3. Enumerate distribution and functions of sympathetic NS.

3.4. Enumerate distribution and functions of parasympathetic NS.

3.5. Explain chemical transmitters, receptors and effects of its disturbances.

A4. Physiological basis of Metabolism:

4.1. Discuss in details regulation of body temperature and mechanism of fever & disorders.

A5. Physiological basis of Endocrinal System:

5.1. Explain role of Growth hormone as regard functions, control of secretion, defects of secretion and its impact in children.
5.2. Discuss in details role of Thyroid hormone as regard functions, control of secretion, defects of secretion.
5.3. Enumerate in details Glucocorticoids: functions, control of secretion, defects of secretion.
5.4. Describe in details role of insulin hormone in pediatric growth and related disorders

5.5. Discuss in details Calcium homeostasis and its effects in children.

A6. Physiology of Respiratory System:

6.1.Explain in details mechanism of respiration and causes of respiratory distress.
6.2.Describe central and peripheral regulation of respiration.
6.3.Discuss in details hypoxia and cyanosis.

A7. Physiology of Digestive System:

7.1. Explain in details mechanisms of upper GIT motility (mastication, deglutition, gastric motility and vomiting).

7.2. List the functions, types and control of salivary secretion.

7.3. Discuss in details pancreatic secretion, liver, bile and jaundice.

7.4. Describe in details intestinal motility and secretion.

7.5. Enumerate types and functions of gastrointestinal hormones.

A8. Physiology of Urinary system:

8.1. Discuss in details mechanisms of renal tubular transport.

8.2. Describe in details acid base balance and its clinical disorders.

8.3. Explain in details water and electrolyte balance and related disorders.

8.4. Recognize renal function tests and their interpretation in kidney diseases.

B. Intellectual Skills:

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

B1. Develop the skills for demonstrating different functions of the body systems and diagnose deviation from normality as detected disease state.

B2. Assess the problems associated with different factors, which affect the normal function of different body systems.

C. Practical Skills:

Practical hours: - not applicable

D. General and Transferable Skills:

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

D1. Adopt the principles of lifelong learning.

D2. Prepare and present clearly and effectively a scientific topic in a tutorial, a staff meeting or the yearly scientific day.

D3. Work efficiently within a team, honor and respect his colleagues.

Curriculum structure & contents:

Topic:	**No. of Lectures**	**Total no. of hours**
1. Physiology of Blood: - Discuss in details composition of blood and general functions. - Explain in details RBCs structure, formation and related diseases. - Describe in details blood groups Rh factor and precautions of blood transfusion. - Describe in details immune system and mechanisms of certain immunological diseases - Discuss in details the mechanisms of Haemostasis and pediatric hemostatic disorders.	**3**	**6**
2. Physiology of Cardiovascular System (CVS): - Discuss Heart rate and its regulation. - Describe physiology of normal heart sounds and ECG. - Describe ABP and its regulation. - Explain COP and factors affecting it. - Recognize special circulations (capillary and body fluid formation).	**3**	**6**
3. Physiology of Central Nervous System and autonomic NS: - Identify function of NS and clinical related pediatric disorders. - Discuss Motor function of NS, and clinical related pediatric disorders. - Enumerate distribution and functions of sympathetic NS. - Enumerate distribution and functions of parasympathetic NS. - Explain chemical transmitters, receptors and effects of its disturbances.	**4**	**8**
4. Physiological basis of Metabolism:		

- Discuss in details regulation of body temperature and mechanism of fever & disorders.	**1**	**2**
5. Physiological basis of Endocrinal System:		
- Explain role of Growth hormone as regard functions, control of secretion, defects of secretion and its impact in children. - Discuss in details role of Thyroid hormone as regard functions, control of secretion, defects of secretion. - Enumerate in details Glucocorticoids: functions, control of secretion, defects of secretion. - Describe in details role of insulin hormone in pediatric growth and related disorders - Discuss in details Calcium homeostasis and its effects in children.	**4**	**8**
6. Physiology of Respiratory System:		
- Explain in details mechanism of respiration and causes of respiratory distress. - Describe central and peripheral regulation of respiration. - Discuss in details hypoxia and cyanosis.		
7. Physiology of Digestive System:	**3**	**6**
- Explain in details mechanisms of upper GIT motility (mastication, deglutition, gastric motility and vomiting). - List the functions, types and control of salivary secretion. - Discuss in details pancreatic secretion, liver, bile and jaundice. - Describe in details intestinal motility and secretion. - Enumerate types and functions of gastrointestinal hormones.		

8. Physiology of Urinary System: - Discuss in details mechanisms of renal tubular transport. - Describe in details acid base balance and its clinical disorders. - Explain in details water and electrolyte balance and related disorders. - Recognize renal function tests and their interpretation in kidney diseases.	**3** **3**	**6** **6**
Total	**24**	**48**

TEACHING AND LEARNING METHODS:

1. Lectures (2hr/wk.) throughout the academic year interchangeable with recorded lectures.
2. Self-learning activities such as use of internet and multimedia.

STUDENT ASSESSMENT METHODS:

1. **Written exam** to assess the student's knowledge in the form of short essay questions and /or MCQs.
2. **Oral exam** to assess student's knowledge, intellectual and general skills as well as assessing the verbal communication abilities.
3. **Log book.**

Assessment Schedule:

- **Assessment 1:** Final written exam.
- **Assessment 2:** Final oral exam.

Weighting of assessment:

- **Final written exam** **100** marks (50%)
- **Final oral exam** **100** marks (50%)
- **Total** **200** marks (100%)

LIST OF REFERENCES:

1. **Department books and notes.**
   Prepared by Medical Physiology Department staff members, Faculty of Medicine, Minia University.
2. **Essential books (Text Books):**
   - Ganong review of medical physiology.
   - Guyton text book of medical physiology.
3. **Periodicals, Web sites… etc.**

FACILITIES REQUIRED FOR TEACHING AND LEARNING:

1. Classrooms with data show for lectures.
2. Computers and internet facilities.

Course Coordinator,

Dr. Adel Hussien Saad

Professor of Medical Physiology Faculty Medicine, Minia University

Head of Department,

Dr. Merhan M. Ragy

Prof. & Head of Medical Physiology Department of of Medicine, Minia University

Merhan M. Ragy

جامعة/أكاديمية : .....المنيا.....
كلية / معهد: .....الطب البشري .....
قسم: .....الفسيولوجيا الطبية.....

Physiology course specifications for 1st Part MD degree in Pediatrics	مسمى المقرر
PE100	كود المقرر

A. Matrix of Coverage of Course ILOs by Contents

Contents	Intended Learning Outcomes ILOs																																						
	A. Knowledge & Understanding																																		B. Intellectual skills		D. General & Transferable Skills		
	A1.1	A1.2	A1.3	A1.4	A1.5	A2.1	A2.2	A2.3	A2.4	A2.5	A3.1	A3.2	A3.3	A3.4	A3.5	A4.1	A5.1	A5.2	A5.3	A5.4	A5.5	A6.1	A6.2	A6.3	A7.1	A7.2	A7.3	A7.4	A7.5	A8.1	A8.2	A8.3	A8.4	B1	B2	D1	D2	D3
1. **Physiology of Blood**	X	X	X	X	X																													X	X	X	X	X
2. **Physiology of Cardiovascular System (CVS)**						X	X	X	X	X																								X	X	X	X	X
3. **Physiology of Central and autonomic NS**											X	X	X	X	X																		X	X	X	X	X
4. **Physiological basis of Metabolism**																X																	X	X	X	X	X

5. Physiological basis of Endocrinal System																X	X	X	X	X													X	X	X	X	X
6. Physiology of Respiratory System																					X	X	X										X	X	X	X	X
7. Physiology of Digestive System																								X	X	X	X	X					X	X	X	X	X
8. Physiology of Urinary System																													X	X	X	X	X	X	X	X	X

B. Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

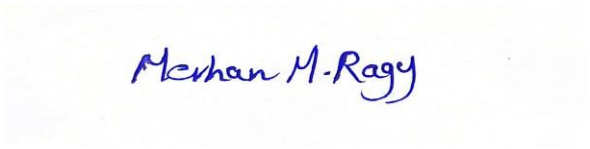
Methods of Teaching & Learning	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
	A	**B**	**C**	**D**
Lectures	X	X	-	X
Self-learning activities	X	X	-	

C. Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	X	X	-	-
Oral Exam	X	X	-	X
Log Book	X	X	-	X

Course Coordinator,
Dr. Adel Hussien Saad
Professor of Medical Physiology
Faculty of Medicine, Minia University

Head of Department,
Dr. Merhan M. Ragy
Professor & Head of Medical Physiology Department
Faculty of Medicine, Minia University



Blueprint of Postgraduate Physiology Course for MD degree (1st part) of Pediatrics Department (Code: PE 100) (100 marks)

Topic	Hours	Knowledge %	Intellectual %	Weight %	ILOs	Actual Mark
1. **Physiology of Blood:** Discuss in details composition of blood and general functions. Explain in details RBCs structure, formation and related diseases. Describe in details blood groups Rh factor and precautions of blood transfusion. Describe in details immune system and mechanisms of certain immunological diseases Discuss in details the mechanisms of Haemostasis and pediatric hemostatic disorders.	6	75	25	12.5	A1	12.5
2. Physiology of Cardiovascular System: Discuss Heart rate and its regulation. Describe physiology of normal heart sounds and ECG. Describe ABP and its regulation. Explain COP and factors affecting it**.** Recognize special circulations (capillary and body fluid formation)	6	75	25	12.5	A2	12.5
3. Physiology of Central and autonomic nervous system: Identify function of NS and clinical related pediatric disorders. Discuss Motor function of NS, and clinical related pediatric disorders. Enumerate distribution and functions of sympathetic NS. Enumerate distribution and functions of parasympathetic NS. Explain chemical transmitters, receptors and effects of its disturbances.	8	75	25	16.5	A3	16.5

4. Physiological basis of Metabolism: Discuss in details regulation of body temperature and mechanism of fever & disorders.	2	75	25	4.5	A4	4.5
5. Physiological basis of Endocrinal System: Explain role of Growth hormone as regard functions, control of secretion, defects of secretion and its impact in children. Discuss in details role of Thyroid hormone as regard functions, control of secretion, defects of secretion. Enumerate in details Glucocorticoids: functions, control of secretion, defects of secretion. Describe in details role of insulin hormone in pediatric growth and related disorders Discuss in details Calcium homeostasis and its effects in children.	8	75	25	16.5	A5	16.5
6. Physiology of Respiratory System: - Explain in details mechanism of respiration and causes of respiratory distress. Describe central and peripheral regulation of respiration. Discuss in details hypoxia and cyanosis.	6	75	25	12.5	A6	12.5
7. Physiology of Digestive System: Explain in details mechanisms of upper GIT motility (mastication, deglutition, gastric motility and vomiting). List the functions, types and control of salivary secretion. Discuss in details pancreatic secretion, liver, bile and jaundice. Describe in details intestinal motility and	6	75	25	12.5	A7	12.5

secretion. Enumerate types and functions of gastrointestinal hormones.						
8. Physiology of Urinary system: Discuss in details mechanisms of renal tubular transport. Describe in details acid base balance and its clinical disorders. Explain in details water and electrolyte balance and related disorders. Recognize renal function tests and their interpretation in kidney diseases.	6	75	25	12.5	A8	12.5
Total	48			100%	-	100

Postgraduate Pathology Course Specification for the first part MD degree in Pediatrics

COURSE SPECIFICATION OF PATHOLOGY

DOCTORATE DEGREE IN PAEDIATRIC STUDENTS (2022-2023)

- **University:** Minia
- **Faculty:** Medicine
- **Program on which the course is given**: Doctorate Degree in Paediatrics
- **Major or minor element of program:** Pathology
- **Department offering the program:** Pathology Department
- **Department offering the course:** Department of Pathology
- **Academic year / Level:** First part
- **Date of specification approval:** Last date of approval: **12/2/2023**

[1]- Basic Information		
Academic Year/level: Postgraduate; 1st Part MD Pediatrics	**Course Title**: COURSE SPECIFICATION OF PATHOLOGY (MD PAEDIATRICS)	**Code**: PA100

- NUMBER OF TEACHING HOURS:

LECTURES: TOTAL OF 24 HOURS; 1 HOUR/WEEK

Practical: No

[2]- PROFESSIONAL INFORMATION

(I)- Overall aims of the course	1. Acquire relevant basic information and correlate them with essential clinical data to reach a final diagnosis. 2. Gain skills of basic & modern pathological laboratory techniques as well as principals of anatomical pathology. 3. Dealing with various biopsies and anatomical pathology reports and correlate such information with the relevant provided clinical data. 4. Learn the basics of essential techniques and follow issues related to maintenance of safety and maintenance of available resources.

(II)- Intended learning outcomes of course (ILOs):

Upon completion of the course, the student should be able to:

(A)- Knowledge and understanding	A1: Identify the basics of anatomical cellular pathology. A2: Recognize the causes of cell injury and its consequences, Identify the basics of general pathological features of inflammation. A3: Describe the process of tissue healing A4: Recognize infectious agents and bacterial infections A5: Describe in details granuloma pathogenesis, types, and pathology A6: Explain mycobacterial infection A7: Recognize different forms of haemodynamic disorders and their underlying pathogenesis A8: Recognize the pathological aspects of genetic and immune diseases A9: Recognize the pathological aspects of chilhood diseases A10: Recognize the pathological aspects of neoplasms A11: Define and discuss the main disease categories of the cardiovascular system A12: Define and discuss the main disease categories of the respiratory system A13: Define and discuss the main disease categories of the gastrointestinal tract A14: Define and discuss the main disease categories of the hepatobiliary system and pancreas A15: Define and discuss the main disease categories of the kidney and urinary tract A16: Define and discuss the main disease categories of the haematopoietic and lymphopoietic systems A17: Define and discuss the main disease categories of CNS

(B)- Intellectual Skills	B1: Correlate & evaluate the gross and microscopic features of different disease process with available clinical data to provide a list of differential diagnosis for further advanced investigations to reach the correct diagnosis. B2: Evaluate and control efficiently potential risks that may arise during the professional practice in various clinical situations like handling and processing of specimens as well as during performing different essential laboratory techniques
(C)- Professional and Practical Skills	C1: Demonstrate competency on dealing with anatomical pathology specimens in view of adopted standards as well as quality & safety procedures. C2. Practice efficiently basic and modern laboratory techniques that include histochemical, immunohistochemical and other principal procedures such as biopsy preservation C3: Counsel expertise in the lab regarding the basics of essential techniques and issues related to maintain safety and available resources.
(D)- General and transferable Skills	D1: Demonstrate efficient communication & interpersonal skills in all its forms and in different situations that may involve senior staff, colleagues, students, lab technical staff, other health care professionals, and patients D2: Use efficiently the information technology and select reliable sources of information to get essential information and updates regarding the different topics and techniques in surgical pathology. D3: Develop skills of self-evaluation and identify personal learning needs to plan for self-development and continuous medical education D4: Demonstrate the skills of effective time management.

[3]- Course Contents

TOPIC	Contact hours		
	Lecture	Practical	Total
(A)- General Pathology			
[1]- Routine and special techniques in surgical pathology and the related safety & quality measures.	30 min	-	1
[2]- Handling of anatomical pathology specimens and the related safety & quality measures.	30 min	-	1
[3]- Cell injury and cellular adaptation	1	-	1
[4]- Inflammation and granulomas	1	-	1
[5]- Tissue healing and repair	1	-	1
[6]- bacteraemia, septicaemia, toxaemia, pyemia	1	-	1
[7]- Infectious diseases and Tuberculosis	1	-	1
[8]- Hemodynamic disorders	1	-	1

[9]- Genetic and immune diseases	1	-	1
[10]- Diseases of infancy and childhood	1	-	1
[11]- Neoplastic disorders	1	-	1
(B)- Systemic Pathology			
[1]- Diseases of cardiovascular system	2	-	2
[2]- Diseases of the respiratory system	2	-	2
[3]- Diseases of the gastrointestinal tract	2	-	2
[4]- Diseases of the hepatobiliary system and pancreas	2	-	2
[5]- Diseases of kidney & urinary tract	2	-	2
[6]- Diseases of the haematopoietic and lymphopoietic systems	2	-	2
[7]- Diseases of CNS	2	-	2
Total	24	-	24

[4]- Teaching and Learning Methods

A- Straight lectures; power point presentations
B- Brain storming with the students
C- Case study, Questions and Answers

[5]- Teaching and learning methods to students with limited capacity: Not applicable

[6]- Student assessment

(A)- Student assessment methods	**Attendance criteria**: by faculty regulations (Activity logbook) **Assessment Tools:** {I}- Final Written exam: A- Short essay to assess knowledge and understanding B- Problem solving to assess intellectual skills C- MCQ to assess knowledge and intellectual skills {II}- Oral exam; to assess knowledge, understanding, intellectual skills, attitude, and communication.
(B)- Assessment schedule	1- Final Written exam 2- Oral exam
(C)- Weighting of assessment	1- Final Written exam 40% (Marks) 2- Oral exam 60% (Marks) Total 100% (Marks)

[7]- List of References

(A)- Course Notes/handouts	Lectures handouts by staff members

(B)-Essential Books (textbooks)	Robbins Basic Pathology, 10th Edition (2018) By Kumar, Abbas, Aster.
(C)-Recommended Books	Differential Diagnosis in Surgical Pathology 2021
(D)-Periodicals	Modern Pathology Diagnostic Histopathology Cancer Annals of diagnostic pathology
(E)-Web sites	https://www.webpathology.com/index.asp https://www.pathologyoutlines.com/

[8]- FACILITIES REQUIRED FOR TEACHING AND LEARNING

I- CLASSROOMS FOR THEORETICAL LECTURES AND TUTORIALS

II- Laboratories for practical

Course Coordinator: Professor Nisreen Abdel Tawab Abdel Gaber

Head of Department: Professor Heba Mohamed Tawfik

جامعة المنيا

كلية الطب البشري

قسم طب الاطفال

مسمى المقرر: **Course Specification of Pathology MD degree of Pediatrics (First part)**

كود المقرر: **PA100**

(A)- The matrix of coverage of course ILOs by contents

Contents	**Intended Learning Outcomes (ILOs)**			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
(A)- General pathology	**A1,2,3,4,5,6,7,8,9,10**	**B 1, 2**	**C 1, 2, 3**	**D 1, 2**
[1]- Routine and special techniques in surgical pathology and the related safety & quality measures.				
[2]- Handling of anatomical pathology specimens and the related safety & quality measures.				
[3]- Cell injury and cell death				
[4]- Inflammation and granulomas				
[5]- Tissue Healing and Repair				
[6]- bacterial infections				
[7]- Infectious diseases & Tuberculosis				
[8]- Hemodynamic disorders				
[9]- Genetic and immune diseases				
[10]- Diseases of infancy and chilhood				
[11]- Neoplastic disorders				
(B)- Systemic pathology				
[1]- Diseases of cardiovascular system	**A11**	**B1,2**	**C 1, 2, 3**	**D 1, 2**
[2]- Diseases of the respiratory system	**A12**			

[3]- Diseases of the gastrointestinal tract.	**A13**			
[4]- Diseases of the hepatobiliary system and pancreas	**A14**			
[5]- Diseases of the kidney and urinary tract	**A15**			
[6]- Diseases of the haematopoietic and lymphopoietic systems	**A16**			
[7]- Diseases of CNS	**A17**			

(B)- Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of teaching & learning	**Intended learning outcomes (ILOs)**			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Lecture	▯	▯	**NA**	**NA**
Practical	▯	▯	▯	▯
Presentation/seminar	**NA**	**NA**	▯	▯
Journal club	▯	▯	**NA**	▯
Training courses & workshops	▯	▯	▯	▯

(C)- Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	**Intended learning outcomes (ILOs)**			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Written exam	▯	▯	**NA**	**NA**
Practical exam			▯	▯
Clinical exam	**NA**	**NA**	**NA**	**NA**
Oral Exam	▯	▯	▯	▯
Assignment	▯	▯	**NA**	**NA**
Structured oral exams	**NA**	**NA**	**NA**	**NA**

Blueprint of 1ST part of MD of Pediatrics Department

Topic	Hours	Knowledge	Intellectual%	% of topic	Marks	Actual
The cell as unit of health and disease	1	70	30	4.16	3	3
Inflammation, Granulomas	1	75	25	4.16	3	3
Cellular pathology (injury and adaptation)	1	75	25	4.16	3	3
Healing and repair	1	70	30	4.16	3	3
Bacterial infections	1	75	25	4.16	3	3
Infectious diseases	1	75	25	4.16	3	3
Hemodynamic disorders	1	70	30	4.16	3	3
Genetic and Immune diseases	1	75	25	4.16	3	3
Diseases of infancy and childhood	1	80	20	4.16	3	3
Neoplastic disorders	1	75	25	4.16	3	3
Diseases of heart and blood vessels	2	75	25	8.3	10	10
Diseases of respiratory system	2	70	30	8.3	10	10
Diseases of gastrointestinal tract	2	75	25	8.3	10	10
Diseases of the hepatobiliary system and [illegible]	2	70	30	8.3	10	10
Diseases of kidney & urinary tract	2	75	25	8.3	10	10
Diseases of lymphatic and hematopiotic systems	2	75	25	8.3	10	10
Diseases of CNS	2	80	20	8.3	10	10
Total	24			100%	100	100

Course Specifications of Pediatrics for Second part MD of pediatrics

University: Minia

Faculty: Medicine

Department: Pediatric Department

1. Basic Information		
Academic Year/level: Second part Pediatric MD	**Course Title: Pediatrics MD**	**Code: PE100**
2. course Aims		
	By the end of the course the student should be able to perform the following: **History and Physical Examination:** Acquisition of a medical history and the performance of a comprehensive physical examination in pediatric patients with acute and chronic diseases necessitating hospital admission. **Case Presentations** : Students are expected to effectively record an initial history and physical examination and follow-up notes as well as deliver comprehensive oral presentations to their team members based on these written documents. **Data Interpretation:**	

	Basic understanding of routine laboratory and ancillary tests, including complete blood count, chemistry panels, ECG, chest x-rays, pulmonary function tests, and body fluid cell counts. In addition, students will properly understand the necessity of incorporating sensitivity, specificity, and pre-test probability in the ordering of individual tests in the context of evaluating pediatric patients' signs and symptoms. **Diagnostic Decision Making:** The formulation of a differential diagnosis with up-to-date scientific evidence and clinical judgment using history and physical examination data and the development of a prioritized problem list to select tests and make effective therapeutic decisions. **Therapeutic Decision Making**: This objective includes assessing the risks, benefits, and costs of varying, effective treatment options; involving the patient in decision-making via open discussion; selecting drugs from within classes; and the design of basic treatment programs and using critical pathways when appropriate. **Communication and Relationships with Patients and Colleagues:** The establishment of rapport with pediatric patients by identifying important psychosocial issues and providing patient-centered care through specific medical treatment as well as education. In addition, the development of effective communication skills demonstrating respect, compassion and integrity in

	working relationships with fellow students, house staff, faculty, nurses, and ancillary personnel. In each of these components, sensitivity to racial and cultural diversity should be demonstrated. **Bioethics of Patient Care:** The development of a functional understanding of informed consent, advanced directives, and the physician-patient relationship. The trainees shall be able to handle End of Life issues, conflicting opinions, palliative care; organ donations and issues of gender dysphoria. S**elf-directed Learning :** The identification of key information resources and the utilization of the medical literature to expand one's knowledge base and to search for answers to medical problems. They will keep abreast of the current literature and be able to integrate it to clinical practice. **Medicine:** The promotion of health via immunizations, periodic health screening, and risk factor assessment and modification. **Research and Scientific Knowledge :** Practice evidence-based learning with reference to research and scientific knowledge pertaining to their discipline.
3. Intended learning outcomes of course (ILOs): ***Upon completion of the course, the student should be able to:***	

A- Knowledge and Understanding	***Following competencies are expected from a student completing MD Pediatric training;*** A.1.Identify basic knowledge of growth and development (physical, physiologic and psychosocial) of a child and of its birth clinical application from through adolescence. A.2.Identify social, economic, environ-mental, biological and emotional determinants of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children A.3. Identify knowledge necessary for the diagnosis and initial management of common pediatric acute and chronic illness. A.4. Recognize Structured didactic exposure and evaluation covering the full spectrum of outpatient care of the pediatric patient. A.5. Illustrate the influence of family, community and society on the child in health and disease. A.6. Recognize the importance of determining the psychosocial condition (status) of the parents and the child. A.7. Identify common chromosomal disorders and is able to provide genetic counseling · Assess, classify and rehabilitate nutritional disorders in child. A.8. Define the APGAR scoring system and its interpretation.
B- Intellectual Skills	B.1. Compare between personal biases and prejudices.

	B.2. Correlate the cultural differences found in varying patient populations. B.3. Observe rules of privacy and confidentiality, particularly in regard to the adolescents. B.4. Develop critical thinking skills and the ability to use evidence-based medicine. B.5. Develop strategies for health promotion as well as disease and injury prevention B.6. Communicate with community agencies, practicing physicians and community health care programs to facilitate optimal care. B.7. Appraise particular subject in depth and utilize appropriate learning resources including texts and literature, consultation with peers, senior colleagues and/or allied professionals to communicate this clearly and effectually in writing. B.8. Develop positive attributes which will serve as the basis for a successful professional.
C- Professional and Practical Skills	**By the end of this program, the candidate should be able to perform the following skills** **C.1. Take History** including psychosocial history **C.2. Examine:** Physical examination including new born examination ***C.3.Examine Newborn with*** Gestation assessment **C.4 Assess nutritional anthropometry** Assist of growth, use of growth chart ***C.5. Monitor:*** Temperature recording Capillary blood sampling

	Peripheral Arterial blood sampling Pulse oximetry Capnography and end tidal C02 recording Measurement of peak flow **C.6. Perform therapeutic Skills:** Nasogastric feeding Endotracheal intubation Cardiopulmonary resuscitation (pediatric and neonatal) Administration of oxygen Venepuncture and establishment of vascular access Collection of blood from central lines Umbilical venous cannulation and sampling Administration of fluids, blood, blood components Parenteral nutrition Intraosseous fluid administration Intrathecal administration of drugs Saphenous vein cut down Common dressings Abscess drainage and basic principles of rehabilitation
D- General and transferable Skills	D.1. Assess the vital signs in children of various age groups · Routinely and accurately measure, record, and plot growth parameters on appropriate growth charts D.2. Use developmental assessment as part of the physical examination for all age groups. this

	includes an understanding of the importance of gestational age in the developmental assessment of young children D.3. Assess professionalism in relationships with the pediatric patient and family D.4. Use the appropriate relevant anatomical markers, indications, contraindications and complications of procedures commonly used in the Pediatrics. D.5. Use local and national guidelines for obtaining informed consent. D.6. Apply local guidelines for providing sedation and pain relief. D.7. Apply practice scrupulous aseptic techniques. D.8. Interpret results and undertake a management plan accordingly D.9. Record results and document procedures legibly and accurately D.10. Use age-appropriate normal ranges of tests commonly requested in the Department setting D.11. Understand the positive and negative predictive value of commonly performed tests D.12.Explain investigation results to caregivers and/or the patient D.13.Enlist the help of play therapists and nursing staff in order to attempt to reduce the anxiety of a child and caregivers.

	D.14. Communicate with children, parents, health functionaries and social support groups D.15. Teach Genetic counseling.	
4.Course Contents		
Topic	**No. of hour lecture**	**No. of hour practical (cases)**
1. Developmental Pediatrics: -Principles of growth and development -Normal growth and development in childhood and adolescence -Deviations in growth and development -Sexual maturation and its disturbances **2-Failure to thrive and short stature**. -Approach to Common Clinical Presentations: -Short stature -Obesity -Precocious and delayed puberty -Developmental delay - Impaired learning	**7** **8**	**100** **80**
2**. Neonatology:** Common Clinical Disorders: -Low birth weight -Pre-maturity	**30**	**350**

-Common transient phenomena -Respiratory distress -Apnea - Infections - Jaundice -Anemia and bleeding disorders -Neurologic disorders - Gastro-intestinal disorders - Renal disorders - Malformations - Thermoregulation and its disorders · Approach to -Normal newborn - Low birth weight newborn -Breathless newborn -Newborn with fits		
Cardiology: -Congenital heart diseases (cyanotic and a cyanotic) - Rheumatic fever -Rheumatic heart disease -Infective endocarditis -Arrhythmia -Diseases of myocardium (cardio-myopathy, myocarditis) - Diseases of pericardium -Murmur -Cyanosis and cyanotic spells	**11**	**12**

-Edema and Congestive heart failure - Tachycardia - Palpitations -Systemic hypertension - Arrhythmia - Shock -Syncope -Pulmonary hypertension - Chest pain		
Pediatric pulmonology: -Congenital and acquired disorders of nose - Infections of upper respiratory tract, tonsils and adenoids - Obstructive sleep apnea - Congenital anomalies of lower respiratory tract - Acute inflammatory upper airway obstruction -Foreign body in larynx, trachea and bronchi - Subglottic stenosis (acute and chronic) - Trauma to larynx - Neoplasm of larynx and trachea -Bronchitis - Bronchiolitis -Aspiration pneumonia	**11**	**120**

-GER -Acute pneumonia -Recurrent and interstitial pneumonia - Suppurative lung disease - Atelectasis - Lung cysts -Emphysema and hyper-inflation -Bronchial asthma Pulmonary edema- -Bronchiectasis - Pleural effusion - Pulmonary leaks - Mediastinal mass		
Gastero intestinal disorders: -Diseases of mouth, oral cavity and tongue - Disorders of deglutition and esophagus - Peptic ulcer disease - H. Pylori infection - Foreign body -Congenital pyloric stenosis - Intestinal obstruction - Malabsorption syndrome - Acute and chronic diarrhea - Irritable bowel syndrome -Ulcerative colitis - Hirschsprung's disease	**11**	**120**

- Anorectal malformations - Liver disorders - Hepatitis -Hepatic failure -Chronic liver disease - Wilson's disease - Budd-Chiari syndrome -Metabolic diseases of liver -Cirrhosis and portal hypertension		
Pediatric Nephrology: - Acute and chronic glomerulonephritis - Nephrotic syndrome - Hemolytic uremic syndrome - Urinary tract infection - VUR and renal scarring - Renal involvement in systemic diseases - Renal tubular disorders - Con-genital and hereditary renal disorders - Renal and bladder stones -Posterior urethral valves - Hydronephrosis - Voiding dysfunction - Enuresis - Undescended testis - Wilm's tumor - Fluid-electrolyte disturbances.	**11**	**120**

Pediatric Neurology: -Seizure and non-seizure paroxysmal events - Epilepsy and epileptic syndromes of childhood - Meningitis - Brain abscess - Coma - Acute encephalitis - Febrile encephalopathies - Guillain-Barre syndrome - Neurocysticercosis and other neuro-infestations - HIV encephalopathy - SSPE - Cerebral palsy - Neurometabolic disorders - Mental retardation - Learning disabilities - Muscular dystrophies - Acute flaccid paralysis and surveillance - Ataxia - Movement disorders of child-hood - CNS tumors -CNS malformations.	**6**	**70**
Pediatric Hematology and Oncology:	**11**	**120**

Deficiency anemias Hemolytic anemias - Aplastic anemias - Pancytopenia - Disorders of hemostasis - Thrombocytopenia -Blood component therapy -Transfusion related infections -Bone marrow transplant/ stem cell transplant - Acute and chronic leukemia - Myelodysplastic syndrome - Hodgkin disease - Non-Hodgkin's lymphoma - Neuroblastoma - Hyper-coagulable states		
Pediatric Endocrinology: Hypopituitarism/hyperpituitarism -Diabetes insipidus -Pubertal disorders - Hypo- and hyperthyroidism - Hypo- and hyperparathyroidism - Adrenal insufficiency - Cushing's syndrome - Adrenogenital syndromes -Diabetes mellitus - Hypoglycemia - Short stature - Failure to thrive	**11**	**120**

-Gonadal dysfunction and intersexuality -Pubertal changes and gynecological disorders.		
Pediatric Immunology and Rheumatology: -Arthritis (acute and chronic) - Major congenital orthopedic deformities -Bone and joint infections; Pyogenic, tubercular - Common bone tumors. - Connective tissue disorders - Disorders of immunoglobulins - T and B cell disorders - Immunodeficiency syndromes.	**10**	**10**
Child and Adolescent Psychiatry: -Rumination - Pica, enuresis - Encopresis - Sleep disorders - Habit disorders - Breath holding spells - Anxiety disorders - Mood disorders -Temper tantrums -Attention deficit - Hyperactivity disorder	**5**	**50**

-Infantile autism		
Basic pediareic examination	**8**	**167**
Pediatric emergency medicine	**10**	**140**
Pediatric intensive care unit	**15**	**180**
Total	**165**	**1865**
5.Teaching and Learning Methods	1. Lectures 2. Seminar Presentation and Journal Club 3. Group Discussions 5. Pediatric Conferences 7. Skill teaching in ICU, emergency and ward settings 8. Attend Combined clinics and rounds for at least one month. 9. Self-study, assignments and use of internet 10. Bedside teaching rounds in ward. 11. OPD & Follow up clinics 12. Long and short case presentation	
6. Methods of student assessment and weighting of assessment		
A. Student Assessment Methods	1-Written Exams: -Short essay -MCQs -Problem solving 2-Clinical Exams 3-Oral Exams. Log book (seminars and group discussion)	
B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam (3 papers) Assessment 2: Oral and clinical exam	

C. Weighting of Each Method of Assessment	Final Written Examination 300 Oral 100% clinical Examination 100 %
7. List of References	
A. Course Lecture notes/handout	Department book and notes prepared by the department staff
B. Essential Books	Nelson textbook of Pediatrics. 21th edition 2022
C. Periodicals, websites	www.pediatrics.com http://www.pediatriceducation.org http://www.ncbi.nlm https://www.aap.org

Course Coordinator
Prof. Gehan Lotfy

Head of Department
Prof. Mohd A. Maaboud

9. Matrix between course topics and Course ILOs

Contents (List of course topics)	**Week No.**	**Intended Learning Outcomes (ILOs)**			
		A. Knowledge & Understanding	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
		A	**B**	**C**	**D**
Developmental pediatric		**A1,3,4,6**	**B1-8**	**C1,2**	**D1-15**
Failure to thrive		**A3,4,6**	**B1-8**	**C1-6**	**D1-15**

Neonatology		**A3,4,6,9,8**	**B1-8**	**C1-6**	**D1-15**
Cardiology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Gastro intestinal disorder		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric nephrology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric Neurology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric Hematology and oncology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric Endocrinology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric Immunology and Rheumatology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric ear disorder		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric dermatology		**A3,4,6**	**B1-8**	**C1,2,4,5**	**D1-15**
Pediatric pulmonology					
Child and adolescent psychiatry		**A2-7**	**B1-8**	**C1,2,4,5**	**D1-15**

10. Matrix between teaching & learning method and course ILOS

	Intended Learning Outcomes (ILOs)

Methods of Teaching & Learning	**A. Knowledge & Understanding**	**B. Intellectual Skills**	**C. Professional & Practical skills**	**D. General & Transferable Skills**
Lecture	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
Assignment	**A1-8**	**B1-8**	**C1- C6**	**D1-D15**

2. Seminar Presentation and Journal Club	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
3. Group Discussions	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
5. Pediatric Conferences	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
7. Skill teaching in ICU, emergency and ward settings	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
8. Attend Combined clinics and rounds for at least one month.	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
9. Self-study, assignments and use of internet	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
10. Bedside teaching rounds in ward.	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
11. OPD & Follow up clinics	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**

2. Seminar Presentation and Journal Club	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**
3. Group Discussions	**A1-8**	**B1-8**	**C1-C6**	**D1- D15**

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
Paper based exam	A1-8	B1-8	C1- C5	D1-D15
Oral Exam Clinical exam	A1-8	B1-8	C1- C5	D1-D15

11. Matrix between methods of assessment of student and course ILOS

Test blueprint for pediatric examination 2nd part

Topic	Hour	% of topic	Total No. of items	Written exam (100 marks)		Marks
				Knowledge	Intellectual	
Basic pediatrics	8	5 %	5	15	-	15
General pediatric medicine	15	9%	30	25	2	27
Pediatric emergency medicine	10	6%	6	18	-	18
Pediatric gastroenterology hepatology	11	6.5%	10	19.5	-	19.5
Pediatric nephrology, urology, gynecological medicine	11	6.5%	8	15	4.5	19.5
Pediatric neurology, psychology	11	6.5 %	10	19.5	-	19.5
Pediatric hematology	11	6.5%	6	19.5	-	19.5
Pediatric cardiology	11	6.5%	5	10	9.5	19.5
Pediatric pulmonology	11	6.5%	6	20.5	-	20.5
Pediatric endocrinology	11	6.5%	7	10.5	10	20.5
Pediatric intensive care medicine	15	9%	10	30	15	45
Neonatology	30	18%	16	70	20	90
Pediatric rheumatology &immunology	10	%6	6	20	10	30
Total	**165**	**100**	**125**			**300**

Course Co-Ordinator: Prof. Gehan Lotfy

Head of the Pediatric Department: Prof. Mohd A. Maaboud

Date: 6/4/2023