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Pediatrics - Junior ILOs

(7223501)

**Monday 25 November 2019**

AN-NAJAH NATIONAL UNIVERSITY

DEPARTMENT OF MEDICINE

# Course Outline

* **Course Details**

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| Course Title | Pediatrics - Junior |
| Course Number | 7223501 |
| Prerequisite(s) | Finish 4th year |
| Course Type:  | Compulsory |
| Credit Hours | 12 |

* **Class Details**

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| Weeks | 12weeks |
| Time | 5 days/ week 8:00 am- 2:00 pm and 5 (20 hours) on-calls in addition to 4 (1-hour) Lectures/ week. |
| Location | An-Najah National University Hospital and Ministry of Health Hospitals affiliated to An-Najah National University in the northern of West Bank |

* **Course Description and Objectives**

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| This course is offered to fifth-year students. It has a general introductory course in pediatric medicine, pediatric surgery, neonatology and pediatric gynecology in addition to specific aspects of ethical issues in pediatric. Inpatient and outpatient Pediatric clerkship of 12 weeks is designed to expose students to child care. Emphasis is on history taking and physical examination of infants, children and decedents are also emphasized. Principle of preventive medicine such as vaccination and nutrition are covered in this course. Students are exposed to the environment of child care. Instruction includes ward rounds, outpatients, seminars, on-calls and lectures. This course includes two weeks of neonatology which includes comprehensive assessments and interpretation of diagnostic data on newborns/infants and their families. Systematic data collection, diagnostic reasoning, and clinical problem solving for a variety of newborns and infants are emphasized. Content focuses on perinatal assessment, fetal assessment, gestational age assessment, neurobehavioral and developmental assessments, congenital anomalies evaluation, physical exam of newborns and infants, and the use of diagnostics such as laboratory studies, radiographs, and instrumentation/monitoring devices. |

# Textbooks and References

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| Textbook(s) |
| 1. **Nelson Essentials of Pediatrics**8th Editionby Karen Marcdante, Robert Kliegman.2. **BRS Pediatrics (Board Review Series) 2nd Edition**by  Lloyd J. Brown, Lee Todd Miller  |
| References |
| * **Nelson Textbook of Pediatrics**, 2-Volume Set, 21st Edition, Authors: Robert Kliegman Joseph St. Geme
* **Published scientific papers.**
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# Topics and teaching methods:

**SPECIFIC OBJECTIVES OF THE COURSE:**

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| **No.** | Title  | **Objectives**  |
| 1 & 2 | Hemolyticanemia 1 & 2 | 1. Classify types of anemia
2. list types of hemolyticanemia
3. Discuss clinical manifestation and diagnostic tests for common hemolyticanemia
4. Discuss the line of treatment for each type
 |
| 3 & 4 | Bleeding disorder (Coagulationdisorders 1 &2) | 1. Discuss the mechanisms of homeostasis
2. Provide a diagnostic approach for

bleeding disorder1. List major clinical examples of coagulation defect
2. Outline the principles of management of coagulation defect
 |
|  | Acute leukemia | 1. Define acute leukemia
2. Identify the clinical manifestations of acute

Leukemia1. Suggest appropriate investigations for Leukemia & lymphoma with emphasis on histopathological, immunological and cytogenetics classification
2. Identify the prognostic criteria of leukemia
3. Outline the principle management of

Leukemia |
|  | Acute renal failure (ARF) | 1. List major causes of ART
2. Identify the clinical manifestations of ARF
3. Discuss methods of assessment of renal function
4. List the indications for renal biopsy
5. Discuss briefly lines of management for ART
 |
|  | Chronic renal failure (CRF) | 1. Define CRF
2. List causes of CRF
3. Describe the presentation and clinical manifestations of CRF
4. Suggest a diagnostic a to patients with CRF
5. Outline the treatment of CRF
6. Identify the indications for renal replacement therapy l (dialysis and renal transplantation)
 |
|  | Glomerulonephritis (GN) | 1. Define GN
2. List causes of GN
3. Identify the clinical manifestations of GN
4. Suggest a diagnostic approach to patients with GN
5. Identify common histological patterns of GN
6. Outline the management of GN
 |
|  | Nephrotic syndrome (NS) | 1. Define NS
2. List causes of NS
3. Suggest a diagnostic approach to patients with NS
4. List the complications of NS
5. Outline the treatment of NS
 |
|  | Acute Gastroenteritis (AGE) & Chronic diarrhea | 1. Define AGE and chronic diarrhea
2. List common causes of diarrhea
3. Describe feature of differential types of dehydration
4. Suggest investigation needed in patients with AGE
5. Outline the management of different type of dehydration
6. Provide a diagnostic approach in chronic diarrhea
 |
|  | Malabsorption and Cystic fibrosis | 1. Define mal absorption
2. Identify different types of malabsorption.
3. Discuss manifestation and principles of management of malabsorption
4. Define symptoms and signs of CF
5. Provide a diagnostic laboratory investigation of CF
6. Outline complications and principles oftherapy
 |
|  | Endemic infectious diseases  | 1. Identify local endemic infectious diseases.
2. Discuss epidemiology, clinical presentation treatment of salmonellosis and Brucellosis.
3. Explore public health measures to prevent these disease.
 |
|  | Mycobacterial diseases  | 1. recognize specific microbiologic characters of mycobacteria
2. Identify epidemiology of mycobacterium. tuberculosis around the word and ways of transmission.
3. Describe different clinical presentation & different stages of infection disease in both children and adults.
4. Outline basic principles of management of mycobacterium tuberculosis
 |
|  | HIV infection and immune deficiency/  | 1. recognize the basic virology concepts of HIV
2. Recognize the epidemiology and mode of transmission of HIV around the word and Jordan.
3. describe clinical presentation and progress of HIV infection
4. Outline concepts of highly active anti-retroviral therapy.
 |
|  | Antibiotics. | 1. Recognize general principles of pharmacokinetics and pharmacodynamics of antibiotics
2. Recognize the history of antibioticsevolution.
3. Describe different families of antibiotics
4. Identify mechanisms of action of antibiotics
5. Recognize the importance of appropriates use of antibiotics.
 |
|  | Seizures | 1. Recognize the underlying pathology of seizures
2. Provide definition and classification of seizures in different age groups
3. Suggest the diagnostic approach and work up of patients with seizures
4. Outline the basics principle of management of seizures
 |
|  | Meningitis | 1. List the pathogens causing acute meningitis in different age groups
2. Describe the pathogenesis of meningitis.
3. Discuss the clinical manifestations in different age group
4. Suggest investigations used to diagnose meningitis.
5. Outline general rules of emergency management of meningitis
6. Discuss common complication of meningitis
 |
|  | Cerebral Palsy (CP)  | 1. Define CP
2. Describe the epidemiological aspects of CP
3. Recognize different clinical classifications of CP
4. Review the pathogenesis and pathology of CP
5. Discuss aspects of care of patients with CP and their associated morbidities
 |
|  | Febrile Seizures | 1. Define and classify febrile seizures
2. Discuss immediate and long term management of febrile seizures
3. Identify the prognosis and long term complications of febrile seizures
 |
|  | Chromosomal abnormalities | 1. Identify the common chromosomal abnormalities and there risk factors
2. Describe the common features of trisomy 21 (Down Syndrome) and its major clinical presentation
3. Describe the common features of trisomy 18 and trisomy 13 and other syndromes with chromosomal abnormalities
4. Discuss principles of genetic counselling for chromosomal abnormalities
 |
|  | Inborn error of metabolism | 1. Identify clinical presentation of inborn error of metabolism
2. List criteria for newborn screening and its limitation
3. Outline general categories of inborn error of metabolism
4. Discuss presentation, diagnosis, management and complication of galactosemia and phenylketonuria (PKU),Gaucher disease, leukodystrophy,Tay-5.Sachsdisease, Lysosomal storage diseases
 |
|  | Hepatitis | 1. Define acute and chronic Hepatitis
2. List different causes of hepatitis
3. Describe symptoms, signs and laboratory findings of hepatitis.
4. Discuss the management, prognosis and complication of hepatitis
5. List main causes and laboratory findings of metabolic liver disease
 |
|  | Acyanotic congenital heart disease (ACHD) | 1. List types and causes of ACHD
2. Review pathophysiology of low perfusion lesions and left to right shunt ACHD
3. Discuss signs, symptoms, diagnostic tests and treatment of common ACHD
 |
|  | Cyanotic congenital heart disease (CHD) | 1. Identify the clinical significance and types of cyanosis
2. List types and causes of CHD
3. Describe signs, symptoms, and diagnostic tests for common CHD
4. Discuss lines of treatment for common CHD
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**Lectures & Seminars:**

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| **No.** | **Lecture** | **Objectives** |
| **1.** | Approach to pediatrics 1 | 1. Introduction to pediatrics medicine and its fundamental subjects.
2. History taking and physical examination approach.
3. Ethical issues in Pediatrics.
 |
| **2.** | Approach to pediatrics 2 |  |
| **3.** | Infant feeding | 1. Discuss the nutritional needs of infants
2. Define the different modalities of infant feeding
 |
| **4.** | Approach to asthma | 1. Define asthma
2. List differential diagnosis of wheezy child
3. Describe clinical presentation of asthma with emphasis on markers of severity
4. Discuss general approach for treatment of Acute exacerbation of asthma
5. List medication used in management of acute and long-term asthma
 |
| **5.** | Urinalysis | 1. Approach to interpretation of urinary dipstick.
2. Macroscopic urinalysis
3. Microscopic urinalysis.
 |
| **6.** | UTI & Vesicoureteral Reflux | 1. Define UTI
2. Suggest a diagnostic approach to patients with UTI
3. Outline the treatment of UTI
4. Define Vesicoureteral Reflux
5. Suggest a grading system and diagnostic methods
6. Identify complication of Vesicoureteral Reflux and treatment options
 |
| **7.** | Precocious Puberty & Approach to amenorrhea | 1. Define delayed and precocious puberty
2. Do pubertal Tanner staging for male and female
3. Discuss the diagnosis and treatment of delayed and precocious puberty
4. Define Amenorrhea and its causes
5. List relevant laboratory tests for the diagnosis of amenorrhea
6. Outline the management of amenorrhea
 |
| **8.** | Nephrotic syndrome | 1. Define nephrotic syndrome
2. Provide a differential diagnosis for the causes of nephrotic syndrome
3. Outline the complications and management of nephrotic syndrome
 |
| **9.** | Nephritic syndrome | 1. Define nephritic syndrome
2. Provide a differential diagnosis for the causes of Nephritic syndrome
3. Outline the complications and management of nephritic syndrome
 |
| **10.** | Child Abuse | 1. Define physical, sexual and psychological abuse
2. Discuss when to suspect child abuse and the accompanied clinical findings
3. Outline the management of child abuse and the obstacles in society
 |
| **11.** | Approach to neonatal Jaundice (Hyperbilirubinemia) | 1. Classify neonatal hyperbilirubinemia (direct and indirect)
2. Review the pathophysiology of neonatal hyperbilirubinemia
3. Define physiological jaundice
4. Name relevant laboratory tests for diagnosis of different type of jaundice with emphasis on ABO/Rh and minor group incompatibility
5. Outline the management steps of neonatal hyperbilirubinemia and its complication
 |
| **12.** | Approach to Bilious Vomiting | 1. Define Bilious Vomiting and its causes.
2. Suggest a diagnostic approach to patients with Bilious Vomiting

Outline the treatment of Bilious Vomiting  |
| **13.** | Cystic Fibrosis | 1. Define Cystic Fibrosis
2. Discuss the Genetics and pathogenesis of Cystic Fibrosis
3. Demonstrate the clinical presentation of Cystic Fibrosis
4. Outline the diagnostic and treatment modalities in different scenarios
5. Provide the different complications and the prognosis of Cystic Fibrosis
 |
| **14.** | Acute Renal Failure | 1. Define Acute Renal Failure
2. Suggest a diagnostic approach to patients with Acute Renal Failure
3. Outline the treatment of Acute Renal Failure
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| **15.** | Growth and development 1 | * 1. Measure the three growth parameters
	2. Use the growth centile chart for height, weight and head circumference
1. Identify the average increase in growth (growth velocity)
 |
| **16.** | Growth and development 2 | * 1. Identify the stages of child development and factors affecting it
	2. Identify the tools of developmental assessment including Denvere developmental Scale.
	3. Recognize red flags in developmental assessment
 |
| **17.** | Chromosomal disorders | 1. Demonstrate understanding of chromosome abnormalities
2. Discuss different syndromes and associations and how to identify them
 |
| **18.** | Approach to bleeding tendencies | 1. Review the pathophysiology of bleeding disorders
2. Demonstrate the method of evaluating bleeding disorders
3. Suggest relevant investigations for diagnosis
4. Outline the treatment of bleeding disorders
 |
| **19.** | Neonatal sepsis | 1. Define neonatal infection, sepsis and congenital infection
2. Outline the etiology of each
3. Identify clinical manifestations of each
4. List relevant laboratory tests for diagnosis, for each
5. Outline principles of management for each
 |
| **20.** | Rickets | 1. Describe pathogenesis of rickets describe clinical features of rickets Interpret the biochemical and radiological findings
2. Suggest a diagnostic approach to patients with rickets
3. Suggest relevant investigations for diagnosis
4. Outline differential diagnosis and management of nutritional and the other forms of rickets
 |
| **21.** | HTN | 1. Define HTN
2. Suggest a diagnostic approach to patients with HTN
3. Outline the treatment of HTN
 |
| **22.** | Fluids and electrolytes | 1. Describe major signs and symptoms of water and electrolyte disturbances
2. Describe the role of urine electrolytes & osmolality as well as plasma osmolality in diagnosing water and sodium disturbances
3. Outline the treatment of common water and sodium disturbances
 |
| **23.** | Nutritional Anemia | 1. Review the pathophysiology of common nutritional.
2. Anemias including vitamin B 12, folic acid, and iron deficiency.
3. Identify the clinical manifestations of nutritional anemias
4. Provide relevant laboratory tests to diagnose nutritional anemia.
5. Outline the management of nutritional anemia.
 |
| **24.** | Atopic dermatitis | 1. Define Atopic dermatitis
2. Suggest a diagnostic approach to patients with Atopic dermatitis
3. Outline the treatment of Atopic dermatitis.
 |
| **25.** | Diabetes Miletus & diabetic keto-acidosis (DKA) | 1. Recognize clinical presentation of diabetes mellitus in pediatrics
2. Identify complication of diabetes including DKA and hypoglycemia
3. Provide general approach for fluid and insulin therapy for DKA in children.
4. Discuss counseling and family education of parents with diabetic child
 |
| **26.** | Approach to Neonatal Respiratory Distress Syndrome | 1. Define respiratory distress syndrome
2. Identify the role of surfactant in different respiratory disease and in improving lung physiology
3. Identify signs of RDS
4. Provide differential diagnosis of RDS
5. Outline Supportive and specifics management of respiratory distress in neonates and pneumonias
 |
| **27.** | X-Ray photo session | Multiple X-ray photos for the common subjects enrolled in Pediatrics. |
| **28.** | Spot Diagnosis photo session | Multiple photos for the common subjects enrolled in Pediatrics. |
| **29.** | Congenital Heart disease 1(acyanotic) | Clinical approach to diagnosis of acyanotic congenital heart disease in neonatal period and older children |
| **30.** | Congenital Heart disease 2(cyanotic) | Clinical approach to diagnosis of cyanotic congenital heart disease in neonatal period and older children |
| **31.** | Pediatrics Rheumatology and vasculitis  | Should know the difference between arthralgia and arthritis, differential diagnosis of arthritis, criteria for diagnosis of rheumatoid conditions. |
| **32.** | Pediatrics Headaches | Recognize central headaches from other causes. |
| **33.** | Approach to Abdominal Pain in Pediatrics | To recognize functional abdominal pain in children and to recognize acute surgical abdomen. |
| **34.** | Failure to thrive | Differential diagnosis of the many organic causes of FFT. |

#  Updates and Advances in Pediatrics:

Students are involved in all of the hospital’s teaching activities including attending morning reports, Journal Clubs, lectures, seminars and Rounds. Updates on guidelines, Case study discussions and other advances in Pediatrics are usually a part of the Morning report, Journal Clubs and Mid-day activities. Students are involved in carrying out presentations in selected topics and cases nominated by their teaching physicians.

# Integration with Health system and Community

A valued focus on the most common diseases and topics in the Palestinian community which includes immunization, primary health including developmental monitoring, nutrition and others. This is more obvious in morning reports, journal clubs and mid-day activities. Students are also encouraged to do medical days that takes a picture of screening campaigns in the local Palestinian community that includes developmental milestones screening, undescended testicles examination, ophthalmic and ear examinations.

* **Topics Covered in Clerkships:**

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| **Week** | **Topics** |
| 1 | History taking and Physical Examination |
| 2 | Cardiovascular system |
| 3 | Respiratory system |
| 4 | Gastrointestinal system |
| 5 | Neonatology |
| 6 | Nephrology |
| 7 | Musculoskeletal system |
| 8 | Rheumatology |
| 9 | Hematology |
| 10 | Endocrinology system |
| 11 | Neurology |
| 12 | Oncology |
| Note: | * Not all Students have the same order of the weeks’ topics. This is a rough distribution of the topics to weeks, sometimes some topics takes more than one week, others take less. Moreover, it also depends on the attending physician specialty. By the end of the clerkship every student should cover all the above mentioned topics.
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# Assessment

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| **Exam Format** | **Note** | **Weight (%)** |
| OSCE-exam | Practical exams done after the end of the clerkship on real patients to evaluate the medical knowledge of students, ability to take medical history, clinical skills and communication with patients. It includes 2-3 stations each of 7 minutes’ duration. In addition, a clinically based dry station containing clinical slides for spot diagnosis and management. | 25% |
| Written exam | An exam done at the end of the academic year to evaluate the medical knowledge. Moreover, these exams were provided from the National Board of Medical Examiners (NBME) in USA which is an independent, not-for-profit organization that serves the public through its high- quality assessments of healthcare professionals. | 60% |
| Evaluation | Evaluation during rotation which depends on daily attendance of morning report, educational rounds, clinical skills, basic medical procedures, group discussions, seminars, lectures attendance, student attitude and respect for patients and team. | 15% |
| Written cases | Students are required to write 10 full cases that includes History, Vital sings, Physical examination, Labs, Imaging and Differential diagnosis. |
| Total |  | 100% |

# Student Evaluation Form During Clerkships

# Important Dates

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| * **At the end of the Clerkship: OSCE Exam**
* **At the end of the Academic year: Written Exam**
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# Teaching and Learning Methods

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| **Tools** |
| 1. Lectures.
2. Small-group teaching.
3. Problem-based or case-based learning.
4. Peer assisted learning.
5. Bed-side teaching.
6. Clinical demonstrations.
7. Field exercises in the community.
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# Course **Policies**

* Students should attend all the activities mentioned above during this clerkship every day, and do the required on-calls.
* The maximum allowed absence is 10% of the clerkship’s duration and this only in case of an accepted situation evaluated by the Department of Medicine.
* Students are not allowed to have even a single day off without an accepted reason evaluated by the department of medicine. In that case, 2 points of the clerkship total will be subtracted and this will be added to the student file record.