



مركز الاعتماد
وإضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER



The University of Jordan

Accreditation & Quality Assurance Center

Course Syllabus

Course Name: Pediatrics – 2

1	Course title	Pediatrics -2
2	Course number	0529501
3	Credit hours (theory, practical)	9
	Contact hours (theory, practical)	Seminars 7:30-8:20 AM, Practical 9:00-12 MD, 1-4 PM
4	Prerequisites/corequisites	Successfully passing Fifth year
5	Program title	Pediatrics -2
6	Program code	Awaiting assignment
7	Awarding institution	The University of Jordan
8	Faculty	Medicine
9	Department	Pediatrics
10	Level of course	Sixth Year
11	Year of study and semester (s)	Sixth year (First, second, or summer semesters), total of 8 weeks
12	Final Qualification	Successful course completion
13	Other department (s) involved in teaching the course	Department of pediatrics- Royal medical services (Queen Rania Children's Hospital (2 weeks) Department of pediatrics- Ministry of Health sector (Albashir Hospital) (2 weeks) Department of pediatrics- King Hussein Cancer center (1 week) Pediatric service in Private sector (1 week)
14	Language of Instruction	English
15	Date of production/revision	6/7/2022

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18. Course Description:

An eight week rotation. Rotating at the department of paediatrics as: Two weeks at Jordan University hospital, rotating in the outpatient and emergency departments. Two weeks at The Royal Medical Services (Queen Rania Children's Hospital), Two weeks at the Ministry of Health sector (Al-Basheer Hospital). One week at King Hussain Cancer Center. One week at the paediatric service of private sector.

In addition to the syllabus, lectures, seminars and skills acquired during the fifth year pediatric rotation, emphasis in this course will be on managing common pediatric health care issues in a problem solving environment, more specialized outpatient service and emergency department.

19. Course aims and outcomes:

A- Aims:

1. Acquire knowledge of normal and abnormal growth and development,
2. Understand diagnosis and treatment of common diseases and emergency conditions in children.
3. Develop communication skills and understanding perspectives of children and their families.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to fulfil the following detailed objectives

Intended Learning Outcomes (ILOs)

In General, sixth year medical students are expected to go through the following learning objectives, with emphasis on initial evaluation, assessment, and diagnostic aspects of common pediatric problems (through lectures, seminars, clinical reaching rounds, teaching clinics and self-study from the included references).

I Part one: General principles and assessment

I-a History taking

The student is expected to learn proper history taking from a parent or a guardian of a child. History taking in pediatric age groups has some special aspects of importance. A general outline of history taking is provided in the following table:

CC: Same as for adults

HPI: The information is the same for any medical problem. A careful and complete description of the presenting problem, with appropriate chronology is key. Always include pertinent positives/negatives and relevant family history or social history items. An important distinction is that much of the history will be observations from a third party (parent/caregiver). Important questions include: mood, activity level, eating pattern, urine output (specific as possible), sleep pattern and a description in the parents word what the problem is, how it has changed, what they have tried to alleviate the symptoms and what they think is causing the child's illness.

Past History:

Birth/Pregnancy History: (For infants, this component is particularly important). Often birth/pregnancy history is either relevant to the chief complaint or represents the majority of the PMH. Make sure to include these questions on all infants and any child with a problem that might be related to perinatal/neonatal issues. We usually include this in all children.

Maternal: mother's age, gravida, para, health problems and medications

Pregnancy: complications, pernatal care/labs/tests

Labor: Duration of membrane rupture and complications

Delivery: Gestational age (at a minimum whether term or premature), Mode (vaginal/C-

<p>section/forceps/vacuum), Apgar Score.</p> <p>Neonatal: Duration of hospitalization and any events that occurred shortly after birth.</p> <p>Medical history: Any medical problems or hospitalizations with a brief summary and dates. Specifically ask about the last health supervision visit.</p> <p>Surgical history: Any surgeries and dates</p>						
<p>Allergies: Allergies and reactions</p>						
<p>Medications: Any prescription medications, over the counter medications or herbs/supplements. Include doses when known.</p>						
<p>Diet (nutritional history): Description of diet. Particularly important in the first year of life or if growth is abnormal. Comment whether breast feeding or formula feeding (and what type of formula and how much) in infants. Ask about typical diet in older children or about concerns the parents may have. Particularly for children with problems with growth, or obesity, student is expected to be able to describe the diet as cc/Kg/day, and Kcal/kg/day.</p>						
<p>Growth and Development: (This should be part of every history). The way you ask the questions will change over time; Start with an open ended question to parents like “tell me what types of things your child is doing now?”. Childhood development is often categorized into 4 domains (social, fine motor, gross motor and language) and screening questions in each domain should be explored (see Denver developmental screening chart).</p> <p>In older children, make sure to ask about their hobbies, activities, school and friends. Assess academic achievement from parents/patient</p>						
<p>Immunizations: Ask about receipt of immunizations in every patient; there are standard immunizations given at specific ages. Parents sometimes have the immunization record; If the child has not received immunizations, delicately explore the reasons why. Saying “up to date” is not an appropriate response, try to document what immunizations were given and when.</p>						
<p>Family history (include family pedigree): Explore any diseases that are in the family (e.g. hypertension, diabetes, or other problems resembling the child’s problem). Also gently explore any miscarriages or childhood deaths in the family. A family pedigree should be drawn for suspected genetic disorders.</p>						
<p>Social history: Ask who lives in the home and whether there are other siblings and the state of the siblings’ health. Explore childcare arrangements—whether it is the family, an in-home setting or center-based (larger classrooms). Inquire about what languages are spoken at home. If the child is verbal, directly ask them about school/daycare, friends, and favourite past times/toys, pets and siblings/family members. Identify sources of stress for the parents.</p> <p>Also Ask about smokers in the house; firearms; seatbelts, hot water heaters and car seats. Travel history, pets and exposures to ill people.</p>						
<p>Review of Systems: This section is similar to that for adult patients. Remember that preverbal children cannot report many of the symptoms, so parental observation is the main source of information. A sample Review of systems (not conclusive of all possible symptoms):</p> <p>General: fever, weight loss, activity</p> <p>Endocrine: change in habitus, weight gain</p> <p>Eyes: crossing, pain, redness, drainage</p> <p>HEENT: Ear pain, drainage, hearing loss, nasal drainage, discharge, sinusitis, tooth pain, sore throat, hoarseness</p> <p>Resp: cough, wheezing, apnea, cyanosis, difficulty breathing</p> <p>CV: cyanosis, chest pain, syncope, fatigability</p> <p>GU: frequency, dysuria, urine output, haematuria</p> <p>Skin: rashes</p> <p>Neuro: seizures, loss of consciousness</p> <p>GI: feeding/appetite, vomiting, diarrhea, constipation, blood in the stool, abdominal pain</p> <p>Musculoskeletal: joint swelling, tenderness, weakness</p> <p>Psych: mood changes, sleep problems</p> <p>Heme/lymph: bleeding, anemia, jaundice, swollen glands</p>						
<p>I-b Physical examination:</p> <p>The student is expected to perform systematic physical examination on a child. The approach to the physical examination will vary with the age of the child. There are special maneuvers that are done at each age. A general outline of history taking is provided in the following table:</p>						
<table border="1"> <tr> <td>Vital Signs:</td> <td>HR</td> <td>RR</td> <td>Temp</td> <td>BP</td> <td>(oxygen saturation in special cases)</td> </tr> </table>	Vital Signs:	HR	RR	Temp	BP	(oxygen saturation in special cases)
Vital Signs:	HR	RR	Temp	BP	(oxygen saturation in special cases)	

Growth parameters: Height (or length), Weight, Head circumference, BMI. Describe the percentiles.
General: Describe the state of alertness, mood, willingness to cooperate with the exam and whether the child is in distress, color of child if pale, cyanosed or jaundiced, presence of respiratory distress, presence of dysmorphic features
Head: For infants and children feel for the fontanelle; comment on the shape of the head
Eyes: Note presence of the red reflex in all children; check papillary reaction, lids/conjunctiva <i>NB: Fundoscopic exam is difficult to perform in infants but can usually be done in children over 5-6 years of age; (The examination in this age group provides an excellent opportunity to see the optic disc and vessels).</i>
Ears: Check for tenderness of pinna, discharge and gross assessment of hearing. Check TMs bilaterally with insufflation.
Nose: Check for discharge, turbinate color
Throat: Check for teeth/caries. Inspect the tongue, buccal mucosal and the posterior pharynx for erythema, enlarged tonsils. Feel for submucous cleft palate.
Neck: Gently palpate neck for masses and assess range of motion (often by observation)
Lymphatic: Check LN in neck, axilla and groin.
Chest: Observe for signs of respiratory distress (nasal flaring, retractions and grunting). Normal respiratory rate varies with age; palpate for tactile fremitus then auscultate anterior and posterior lung fields. Note the inspiratory/ expiratory ratio (I:E ratio)
Cardiovascular: Observe for cyanosis, respiratory distress and hyperdynamic precordium. Palpate the precordium (for thrills); auscultate as in adults---pediatric heart rates are faster than adults thus distinguishing systole and diastole is more difficult. An S3 may be found in normal children (represents rapid ventricular filling). Many children will have benign murmurs (of no medical importance)---train your ears to hear them! Palpate the peripheral pulses as in adults. (Femoral pulses are particularly important to feel in neonates when screening for coarctation of the aorta).
Abdomen: observe, auscultate and palpate as in adults. Children often have a palpable liver edge.
GU: As in adults, and determine Tanner staging
Musculoskeletal: Much of this portion of the examination is observation for tone and strength. In neonates, observe for increased or decreased tone...both are pathological. When children are older and can follow directions, the approach is similar to an adult exam. There are also special maneuvers to screen for congenital hip dysplasia (Barlow/Ortolani manoeuvres).
Neurological: Much of this exam is by observation (especially the CN). Children have DTR's just like adults that should be tested. Neonates have primitive reflexes (like an upgoing toe with a Babinski test).
Developmental Exam: To determine the developmental age of the child is very important. Examination manoeuvres differ with age, Manoeuvres can be derived from the four domains of developmental assessment as used in history taking. In addition assessment of hearing and vision should be included.

I-c Basic Laboratory assessment:

The student is expected to be able to interpret and analyse common laboratory values, and come up with possible etiologies for abnormal values, provide additional ways to assess and/or to confirm his differential diagnosis, as well as to generate a general plan of solving the problems.

The following table outlines the Laboratory tests that are included in this learning objective:

Complete blood count interpretation
Serum electrolyte level assessment, with kidney function testing
Liver function tests
Results on urine routine analysis and microscopy
Results on Lumbar Puncture
Interpretation of chest radiograph with common findings
General Interpretation of electrocardiogram (determining rate, rhythm, axis, ventricular hypertrophy, intervals, and common rhythm disturbances)
Blood gas interpretation with acid base balance/ imbalance

II Part Two: Skills competencies in simulation Laboratory

With attendance of certain sessions in the simulation laboratory, the intended learning objective for students is to demonstrate competencies in performing certain skills in the simulation set up. Skills are outlined in the following table:

Oxygen Management and administration, and nebulizer treatment

Airway management including intubation in the skills laboratory
Chest compressions in a child or infant
Rhythm recognition during cardiorespiratory arrest
Basic neonatal resuscitation steps
New born physical examination

III Part three: Problem solving competencies

The student is expected to become competent in the skills of

III-a Assessing common pediatric problems/ complaints by focused history

III-b Assessing common pediatric problems/ complaints by focused and systematic physical examination

III-c Analyse common pediatric problems/complaints and prioritize problem list, and construct a list of differential diagnosis, including the common and important diagnoses

III-d Demonstrate ability to acquire new information and data, and construct a general management plan for common pediatric problems/ complaints that include laboratory and other investigative requests, and management that includes disposition of patient, dietary management, respiratory support, fluid management, medications, and anticipation of complications.

III-e Common pediatric problems targeted in this course are included in the following table:

A child with abdominal pain
A neonate, infant or child with bleeding tendency, or bruising
An infant or child with allergic symptoms (skin manifestations)
A child with chest pain
An infant or child with decreased level of consciousness, or loss of consciousness
An infant or child with cough
An infant with excessive crying
An infant or child with diarrhea
A neonate, infant or child with difficulty breathing or respiratory distress
A child with dysuria, or with change in urination
An infant or child with ear pain
An infant or child with edema
An infant or child with failure to thrive
A neonate, infant or child with fever
A neonate, infant or child with changed urine color
A neonate, infant, or child with jaundice
A neonate, infant or child with pallor
An infant or child with abdominal distention, or abdominal mass
An infant or child with recurrent infections
An infant or child with delayed development, or regression
A child with delayed speech
A neonate, infant or child with upper or lower GI bleeding
An infant or child with constipation
A child with hyperactivity, or inattention symptoms
A short child
A child with weight loss
A child with obesity
A child with sore throat
A neonate, infant or child with vomiting
An infant or child with wheezing, or other noisy breathing symptoms
A neonate, infant or child with a seizure or abnormal movement
An neonate, infant or child with skin rash or lesions
A child with joint pain
An infant or child with muscle weakness
A neonate, infant or child with cyanosis

IV Part Four: Knowledge of common and important pediatric topics.

The student is expected to retain general knowledge of common and important specific pediatric topics.

The following table outlines the important topics classified by systems

Pediatric endocrinology	
Topic	Objectives: overview of:
Growth	Normal growth pattern of infants and children. Growth charts. Causes, diagnostic approach and management of short stature.
Puberty	Normal physiology of puberty. Etiologies, clinical manifestations, diagnosis, management and follow up for patients with precocious and delayed puberty.
Adrenal disorders	Clinical manifestation, diagnosis and management of adrenal insufficiency(mainly congenital adrenal hyperplasia, Addison's Disease, central adrenal insufficiency). Management of adrenal crisis.
Hypopituitarism	Clinical manifestations of pituitary hormone deficiencies, causes, laboratory and radiological work up. Medical and surgical management.
Diabetes	Classification, pathogenesis, clinical manifestation, diagnosis, management, complications.
Hypoglycemia	Causes, clinical manifestation, management.
Thyroid disorders	Etiologies, clinical manifestations, diagnosis and management of congenital hypothyroidism. Pathophysiology, clinical manifestation, management and follow up of autoimmune thyroiditis.
Ambiguous genitalia	Classification of XX and XY ambiguous genitalia. Approach for diagnosis and management. Counseling for parents of children with ambiguous genitalia.
Rickets	Normal bone formation and calcium homeostasis. Types of rickets (mainly: vit D deficient, resistant and dependent rickets). Diagnostic approach (biochemical and radiological) and management.
Calcium balance disorders	Normal calcium homeostasis. Causes, clinical manifestations, diagnosis and management of hypocalcemia and hypercalcemia in infants and children.
Water and Sodium balance disorders	Normal sodium homeostasis. Causes, clinical manifestations, diagnosis and management of hyponatremia (mainly SIADH, hypoaldosteronism, pseudohypoaldosteronism), and hypernatremia (mainly diabetes insipidus, cerebral salt-wasting) in infants and children.
Pediatric Rheumatology	
Topic	Objectives: overview of:
Juvenile Rheumatoid arthritis:	Classification (oligoarticular, polyarticular and systemic-onset). Differential diagnosis. Pathogenesis, clinical manifestations, diagnosis, general management.
Kawasaki Disease	Etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment (antiplatelet, anticoagulant ,thrombolytic medications) and prognosis.
Henoch-Schonlein Purpura	Pathogenesis, clinical manifestations, diagnosis, treatment and prognosis.
Familial Mediterranean Fever	Etiology, pathogenesis, clinical manifestations, diagnosis, treatment and prognosis.
Reactive arthritis	Pathogenesis, clinical manifestations, diagnosis and treatment
Other diseases	General overview of other rheumatological diseases as Juvenile dermatomyositis, Systemic Lupus Erythematosus, spondyloarthropathies, Behcet disease, and Amyloidosis.
Neonatology	
Preterm baby	<p>Student should recognize preterm baby and should understanding of the following:</p> <ul style="list-style-type: none"> • Prevention: Know the pulmonary and non-pulmonary effects on the fetus and/or newborn infant of maternally administered steroids (including betamethasone, dexamethasone, and prednisone) and role of antibiotic use in prolonged rupture of membranes • Risk Factors of preterm labor • Causes of preterm delivery • Delivery room management of preterm baby • Complications and its management including (apnea of prematurity, intraventricular hemorrhage, patent ductus arteriosus, hypothermia, bronchopulmonary dysplasia, osteopenia of prematurity, retinopathy of prematurity, anemia of prematurity, necrotizing enterocolitis)

	<ul style="list-style-type: none"> • Prognosis and outcome
Thermal regulation	Know General principles of Neutral thermal environment and normal skin temperature in new born through being familiar with the incubators and warmers
Jaundice	<p>Student should recognizes Jaundiced newborn and show understanding of:</p> <ul style="list-style-type: none"> • Bilirubin physiology, including pathways of synthesis, transport, and metabolism, in the newborn • Differences between physiologic and nonphysiologic jaundice • How to use a pre-discharge bilirubin measurement to predict the risk of severe hyperbilirubinemia • Bilirubin toxicity and pathologic hyperbilirubinemia • Coorelation between human milk and jaundice
Respiratory distress in newborn	<p>Student should recognize Respiratory distress and to show understanding of</p> <ul style="list-style-type: none"> • Common Causes (transient tachypnea of newborn, respiratory distress syndrome, meconium aspiration syndrome, pneumonias, persistent pulmonary hypertension) • Less common problems (diaphragmatic hernia, pneumothorax, airway obstruction such as choanal atresia) • General concepts on types of respiratory Support • Treatment options of common respiratory problems (i.e surfactant)
Neonatal sepsis and meningitis	<p>Student should recognize newborn with suspected sepsis and should show understanding of:</p> <ul style="list-style-type: none"> • Mode of transmission of infectious agents to the neonate • Clinical manifestations, laboratory features, and differential diagnosis of neonatal sepsis • Treatment and complications of sepsis • Infectious agents that cause neonatal sepsis • Maternal, perinatal, and neonatal risk factors for neonatal sepsis • Normal CSF counts and chemistries in preterm and term neonates and changes with Central nervous system infection
Laboratory findings in newborn including CBC, CSF, urinalysis, electrolytes	Student should be able to interpret these findings
Hypoxic ischemic encephalopathy	<p>Student should show understanding of</p> <ul style="list-style-type: none"> • Causes, clinical features, evaluation, and management of hypoxic ischemic encephalopathy • Outcome of infants with hypoxic-ischemic encephalopathy
Fluid and total parental fluid management newborn	Students should recognize normal fluid need in new born
Effect of certain common Acute and chronic Maternal Illnesses on newborn	Students should show understanding of certain maternal illnesses on the fetus and newborn, such as maternal chronic hypertension and preeclampsia, maternal diabetes mellitus (including gestational diabetes)
Large- and small-for-gestational age (LGA - SGA) infants	<p>Students should show understanding of</p> <ul style="list-style-type: none"> • Postnatal growth patterns of SGA infants • Recognize the effects of fetal programming and nutrition on the prevalence and types of adult onset disorders • Definitions, causes, clinical features, differential diagnosis, and typical laboratory findings of SGA and LGA infants
Vitamins and Electrolytes	<p>To know the requirements for vitamins D in newborn infants,</p> <p>To know the changing requirements of sodium, potassium, in the term neonate</p>
Human milk	<ul style="list-style-type: none"> • To know the differences between the composition of breast milk of the mother of a preterm infant and that of a full-term infant • To know the differences in the nutritional composition of human milk and infant formula • To know the immunologic and anti-infective constituents in human milk and their physiologic effects

	<ul style="list-style-type: none"> To know that human milk needs to be fortified in order to meet the nutritional needs of preterm infants To realize common problems associated with breast milk production in the NICU, and their management To know the advantages and disadvantages of the use of human milk To become aware of WHO recommendation for baby friendly hospital initiative
Thyroid screening of the newborn	To know the interpretation and trimming of thyroid screening tests in the diagnosis of thyroid dysfunction
Professional conduct and attitudes	
Communication skills	Introduction to verbal and none verbal communication, secrecy, building rapport, and to be aware of the skill of breaking bad news.
Pediatric Infectious Diseases	
Respiratory infections	student should be able to Know the clinical presentation, etiologic agents, diagnostic studies and management of patients with serious bacterial and viral infections;
common, serious infections such as meningitis and osteomyelitis	Students should learn the antimicrobial spectrum of activity, indications for usage and adverse effects of commonly-used antibiotics; to interpret antibiotic susceptibility data provided by the Microbiology Laboratory.
Gastroenteritis	
fever of unknown origin	
common infections, and infections in children with impaired host defenses	
Acute exanthema	Common infectious causes of skin rash diagnosis and differential diagnosis
Immunization	The student should become aware of the immunization schedule given to children, including mechanism of action, side effects, and timing of each vaccine. Additional optional vaccines will also be studied.
Pediatric Neurology	
History, and a detailed neurological examination	The student will learn to elicit a complete history, perform a detailed neurological examination, and formulate a differential diagnosis and management plan for each patient Student the know the diagnostic work-up and ongoing care of patients with a broad variety of disorders of the nervous system. student should have the opportunity to investigate the more seriously ill or complicated patients and to learn about neuro -diagnostic procedures such as electroencephalography (EEG), evoked potentials, CT scan and MRI.
Seizures disorders	Classification , diagnosis and management and diagnostic tools if available
mental retardation, learning disabilities	Understand the differential diagnosis and evaluation Understand the management Understand the clinical manifestations and their prognosis
Headache	Classification provenance , etiology, treatment and prognosis of common types of headache in children (e.g migraine, and tension)
Autism	Definition, and new developments of autism, treatment and behavioural modification, as well as prognosis
ADHD	Diagnosis, treatment and prognosis
Neuromuscular Disorders:	Signs and symptoms of each disorder (myopathy, neuromuscular junction, peripheral neuropathy and anterior horn cell disorder). The student should be able to differentiate between central and peripheral hypotonia, and to understand the diagnostic approach for hypotonic children
Behavioural/Development	
Development	The student should know normal and abnormal patterns of development. After reviewing the "normal" development process through the infant, pre-school and school-age years,
Abnormal Development	Students should participate in the pediatric evaluation of young children with suspected delays in cognitive, language, social and/or motor development.

	<p>Students should learn how to assess signs of developmental delay and/or neuromotor impairment.</p> <p>Students should learn with the learning and attention problems experienced by some school-aged children.</p> <p>Student should participate in the developmental pediatric evaluation of both inpatients and outpatients of various ages.</p> <p>The student will learn the role of various essential non-medical disciplines (psychology, speech/language therapy, occupational therapy, physical therapy).</p> <p>Students will be expected to give a short presentation on a related topic of interest.</p>
Behavioral problems	the student will learn common behavioral problems including Temper tantrum, Bulimia, Anorexia nervosa,
Pediatric Nephrology	
History and physical examination of renal patients	<p>The student will become knowledgeable in the presentation and examination of a child with renal disease.</p> <p>The student should know how to work-up patients with renal diseases and interpret the findings and do the differential diagnosis and reach the correct diagnosis</p> <p>The student should participate in all the clinical activities of the division including the care of hospitalized, ambulatory patients, and consultations.</p>
Evaluation of kidney function	<p>Should know the normal urinalysis</p> <p>Should know updated Schwartz formula to calculate eGFR, and stages of CKD.</p> <p>Should know normal creatinine, urea, electrolytes for age</p> <p>Should clinically differentiate tubular from glomerular disease</p> <p>Should clinically differentiate acute from chronic renal failure</p>
Acid base problems	Student should interpret acid base, blood gas, and recognize variable causes of imbalance
Fluid and electrolyte management	Student should know how to calculate fluid in normal and dehydrated children and manage electrolytes imbalance especially sodium and potassium imbalance
Proteinuria and Nephrotic syndrome	Should know the etiologies, clinical presentation, laboratory evaluation management, outcome and complications of nephrotic syndrome including minimal change disease and Focal segmental glomerulosclerosis and should know the types of proteinuria and how to calculate protein/creatinine ratio
Hematuria and glomerulonephritis	Should be able to define hematuria, differentiate glomerular from nonglomerular causes of hematuria. The student should know the work up and differential diagnosis of hematuria. He should know the presentation and management of common diseases of glomerular hematuria as post streptococcal GN, HSP, HUS, Alport, IgA nephropathy
Urinary Tract Infection	Should know symptoms and signs of UTI, diagnostic investigations, management, complications, and indications for imaging. He should know risk factors for recurrent UTI as vesicoureteral reflux and others.
Hypertension in children	Measurement of BP, definition of hypertension, Etiology of hypertension; clinical findings; lab evaluation; differential dx of secondary hypertension; management
Renal Tubular Disorders	Clinical diagnosis and lab evaluation of metabolic acidosis and alkalosis. Should know how to differentiate and manage various types of RTA (Type I RTA, Type II RTA, Type IV RTA.) Should know how to calculate serum anion gap; urine anion gap.
Acute and chronic renal failure	Etiologies, clinical presentation, complications of acute and chronic renal failure. Causes of Acute Kidney Injury in children (should be able to differentiate prerenal from intrinsic renal, and postrenal. Management of acute and chronic kidney disease.
Voiding disorders	Know and differentiate nocturnal enuresis from overactive bladder, management of both,
Additional for Jordan	Cultural competency in pediatric nephrology The various manifestations of crystallurias
Pediatric Cardiology	
Clinical cardiac evaluation and cardiac	The student is expected to become knowledgeable of the clinical parameters to assess cardiac function in children by physical examination

function assessment	The student is expected to become knowledgeable in analyzing abnormal findings on physical examination such as the presence of murmurs, abnormal pulses, heaves and thrills, and other added sounds on cardiac auscultation
Fetal circulation and Congenital heart disease	The student is expected to show understanding of fetal circulation and the changes that occur in transition to post-natal circulation. The student is expected to become knowledgeable of signs and symptoms of common cyanotic and non-cyanotic congenital heart disease, and the different ways of presentations. Common congenital heart disease include VSD, ASD, PDA, TOF, TGA, Coarctation of aorta, aortic and pulmonary stenosis The student is expected to know basic management options for congenital heart disease
Acquired heart disease in childhood	The student is expected to become knowledgeable of the common acquired heart disease in children, namely Kawasaki disease, rheumatic heart disease, myocarditis and endocarditis, as well as the common cardiomyopathies.
Rhythm issues	The student is expected to become knowledgeable in the basic interpretation of ECG, and to be familiar with the presentation of common pediatric arrhythmias, such as supraventricular tachycardia and atrioventricular block
Pediatric Gastroenterology	
Growth	Normal growth pattern of infants and children. Failure to thrive: types, etiology, and management. Malnutrition and obesity.
Nutrition	Infant and toddler nutrition. Composition of breast milk Infant/ toddlers formulas; regular and special formulas. Nutritional rehabilitation. Refeeding syndrome. Vitamin deficiencies: causes, manifestations, and treatment. Eating disorders: anorexia and bulimia.
Pediatric Liver disease	Cholestasis in infancy: etiology, investigations and management. Chronic liver disease in children: causes, assessment, and treatment. Acute liver failure. Hepatitis A and B in pediatrics. Wilson disease. NASH. Autoimmune hepatitis.
Gastro esophageal reflux and GERD	Definition, natural history, investigations, and management (infancy and adolescence).
Abdominal pain	Causes of abdominal pain: acute VS chronic / recurrent, with investigation and management. Functional abdominal pain: diagnosis and management. Helicobacter pylori : diagnosis and treatment.
GI bleeding	Upper GI bleeding : etiology according to age groups, investigations, and management. Lower GI bleeding: etiology according to age groups, investigations, and management.
Diarrhea	Acute diarrhea : definition, etiology, investigations, and management. Chronic diarrhea: definition, etiology, investigations, and management.
Constipation	Diagnosis and management
Malabsorption	Diagnosis and management
Child abuse/neglect : physical and sexual Abuse	
Risk factors for child Abuse	Student should know the risk factors for child Abuse
Types of child injuries due to Abuse	Student should Know how to suspect child Abuse base on type of injury
Child abuse reporting	Student should Know the Jordanian system to report and identify affected children
Pediatric Critical Care	
Poisonings	Students should know when to suspect ingestions (accidental and intentional). General support for the poisoned child and specific diagnostic and therapeutic measures including antidotes when available. We will concentrate on common agents such as Paracetamol, Salicylic Acid, Iron, drugs of abuse (Opiates, Benzodiazepines etc), anticonvulsants, and antihypertensive agents.
Respiratory Distress and Failure	Student should know presentation, method of clinical diagnosis& monitoring of a child in respiratory distress, interpretation of blood gases, Modes of invasive and non invasive respiratory support for hypoxic and or hypercarbic respiratory failure. Differential diagnosis for cause of hypoxia and hypercarbia.

Shock	Student should know Types of shock, signs and symptoms of shock, initial management and stabilization of a child in shock. Monitoring of the child in shock and concept of end organ function monitoring
Airway management	Bag mask ventilation, intubation, adjunct airway devices, non invasive respiratory support(this part is taught in the simulation lab)
General Support of the critically ill child	Nutritional support, fluid & electrolyte balance, pain management and sedation.
Pediatric Pulmonology	
Common pulmonary disorders in the in-patient and outpatient settings.	The student should take a complete history and performing a pertinent physical examination to differentiate the normal child from one with respiratory distress and disease student should be able to formulate a differential diagnosis and management plan for children with acute and chronic respiratory disorders. Student should learn the indications, limitations, and interpretation of laboratory techniques used to assess the child with breathing problems such as radiographs, CT scans, pulmonary function tests, flexible bronchoscopy, bronchoalveolar lavage, and sweat tests. During the rotation, the student will become familiar with pharmacological agents and mechanical techniques used to treat acute and chronic respiratory disease.
Asthma	Student will be able to categorize asthma severity based on the symptoms, formulate a plan of care and follow up
Cystic Fibrosis and other chronic lung disease	Student will become familiar with the presentation of cystic fibrosis, know the differential diagnosis, workup, and general plan of management
Pediatric Hematology and Oncology	
History taking	The student will acquire skills in history taking and physical examination in children with a wide variety of hematologic and oncologic diseases
Data gathering	The student should know the work-up of hematologic patients and planning their investigations and treatment
Data interpretation	Student should be able to do interpretation of basic hematologic and biochemical tests (complete blood count, blood smear, coagulation studies, hemoglobin electrophoresis, Coombs test)
Anemia	Know the clinical and laboratory features of common pediatric anemias, including iron deficiency, hemoglobinopathies, including the thalassemias and other hemolytic anemias
Bleeding disorders	Should know common causes of bleeding tendencies including idiopathic thrombocytopenic purpura , hemophilia, and other disorders
Oncology	Know the clinical and laboratory features of leukemia and lymphoma, its classification, and basic approach to management Know the clinical and laboratory features of common solid tumors in children (eg, Wilms tumor, neuroblastoma, , brain tumors, rhabdomyosarcoma, bone tumors and histiocytosis)
Pediatric Allergy and Immunology	
Primary and secondary immunodeficiency,	The student will acquire skills in history taking, complete physical examinations and diagnoses of common and rheumatology childhood immunology and allergic diseases. The student will show understanding of the differential diagnosis, laboratory work-up and evaluation of patients with recurrent infections, recurrent fever or unknown systemic disease. The student will learn and understand the basic clinical concepts of cell mediated and humoral immunity and mechanism of host defense. Learn basic immunologic lab tests including NBT, and quantitative immunoglobulins.
Genetics and Metabolic Diseases	
General Genetics	<ul style="list-style-type: none"> • Appreciate the role of genetics in childhood health care and the practice of pediatrics • Understand the fundamentals of molecular genetics and the human genome

	<ul style="list-style-type: none"> relative to genetic testing and counseling • Know the classification of Genetic disorders • Know the patterns of inheritance and be able to obtain an informative family history • Know the genetic basis of common disorders
Cytogenetics	<ul style="list-style-type: none"> • Understand the fundamentals of human cytogenetics • Know the classification of human chromosomal abnormalities • Know the clinical picture and care for children with numerical autosomal abnormalities [Trisomies 21, 18, and 13] • Know the clinical picture and care of children with sex chromosome abnormalities • Understand the role of copy number variants (CNVs) in human genetic disorders
Inborn errors of metabolism	<ul style="list-style-type: none"> • Understand the common characteristics, clinical manifestations and treatment option for genetic metabolic disorders, as well as the role of massive newborn screening in early detection • Know the biochemical and genetic basis of the defects in the metabolism of amino acids • Know biochemical and genetic basis of the defects in the metabolism of lipids • Know the biochemical and genetic basis of the defects in the metabolism of carbohydrates • Know the biochemical and genetic basis of the defects in the metabolism of purines and pyrimidines • Know the biochemical and genetic basis of the mucopolysaccharidoses
Clinical genetics and dysmorphology	<ul style="list-style-type: none"> • Understand the embryologic and genetic basis of the congenital anomalies (birth defects) and their classification • Know the genetic basis, clinical picture and care of children with common neurocutaneous syndromes • Know the genetic basis, clinical picture and care of children with common skeletal dysplasias • Know the genetic basis, clinical picture and care of children with congenital cardiac anomalies

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
General pediatrics	1-2	JUH instructors	See ILOs	Attendance, clinical evaluation, osce at end rotation	See references
General pediatrics	3-4	Queen Rania Children's Hospital instructors	See ILOs	Attendance, clinical evaluation, osce at end rotation	See references
General pediatrics	5-6	Albasheer hospital instructors	See ILOs	Attendance, clinical evaluation, osce at end rotation	See references
General pediatrics	7	King Hussain cancer center instructors	See ILOs	Attendance, clinical evaluation, osce at end rotation	See references
General pediatrics	8	Pediatric private sector instructors	See ILOs	Attendance, clinical evaluation, osce at end rotation	See references

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

1. Seminars and case discussions.
2. Bedside clinical teaching rounds.
3. Teaching clinics.
4. Emergency department
5. Lectures

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Assessment	Point %	Date
Evaluation of performance, attendance, participation in seminars, ability to make assessment by history and physical exam, problem solving skills, presentation skills.... etc	20%	End of rotation
OSCE exam	20%	End Rotation
OSCE exam	10%	End of Academic year
Oral exam	10%	End of Academic year
Final Exam	40%	End of Academic year

23. Course Policies:

1. Attendance policies: As per university Regulations: Absence should not exceed 15% of rotation days. Acceptable excuses for absence should be handed over to the head of the department office through the school of medicine deanship no later than one week after the end of the excuse.
2. Absences from exams and handing in assignments on time: As per university Regulations: only legal excuses accepted after review by faculty administration.
3. Health and safety procedures: As per hospital policies and requirements: immunizations, scrubs, etc
4. Honesty policy regarding cheating, plagiarism, misbehavior: Those captured will be withdrawn from exam and referred to faculty's relevant disciplinary committee.
5. Grading policy: letter system as per university regulations.
6. Available university services that support achievement in the course: Lecture halls with audiovisual facilities, Skills Lab/ Library/ related hospital facilities.

24. Required equipment:

Equipped lecture room with IT support

2°. References:

- A- Required book (s), assigned reading and audio-visuals:
Nelson Textbook of Pediatrics, 21st edition, by R. Kliegman et al.
- B- Recommended books, materials, and media:
1. **Nelson Essentials of Pediatrics, by K Markdante.**
 2. **Zitelli Atlas of Pediatric Physical Diagnosis.**
 3. **Harriet Lane Handbook of Pediatrics.**
 4. **Smith's Recognizable Patterns of Human Malformations.**
 5. **Online modules in pediatric GI (created by Indiana University).**
<http://radtf.indyrad.iupui.edu/radtf> Username: mfeist Password: student

26. Additional information:

None

Name of Course Coordinator: *Dr. Abcar M. Al-Husseini* / Signature: *Abey* Date: *4/7/2020*

Head of curriculum committee/Department: *Dr. Abcar M. Al-Husseini* / Signature: *Abey* Date: *4/7/2020*

Head of Department: *Dr. Abcar M. Al-Husseini* / Signature: *Abey*

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File