This course gives 4th year medical students competences relevant to medical history taking of common pediatric disorders. Skills related to performing physical examination on infant, children and deccedents are also emphasized. Principle of preventive medicine such as vaccination and nutrition are covered in this course. During this 10 weeks rotation, students are directly supervised by clinical instructors on the common pediatric diseases. This course also covers normal developmental and disorders related to behavioral aspects of children at different age group.

I. GENERAL OBJECTIVES:
By the end of this course, students are expected to:
1. Describe common pediatric diseases
2. Take proper pediatric clinical history, conduct proper physical examination, and detect physical signs of pediatric illnesses
3. Generate a problem list or differential diagnosis for common pediatric problems
4. Investigate common pediatric problems in a rationale way
5. Build up proper relations with colleagues, patients, staff members, nurses, and technicians working in the hospital

II. METHODS OF INSTRUCTIONS:
- Bed-side teaching sessions
- Seminars
- Lectures
- Combined clinical cases discussion

III. EVALUATION AND DISTRIBUTION OF MARKS:
- In-course evaluation = 20%
- Final Clinical Exam = 40%
- Final Written Exam = 40%
IV. RECOMMENDED TEXT BOOKS:
Nelson Textbook of pediatrics
Forfar Textbook of pediatrics
Oski Textbook of pediatrics
Nelson Essential of paediatrics

LEARNING (SPECIFIC) OBJECTIVES OF THE COURSE:
After studying material covered in the lectures, seminars and bed-side sessions of this course, the student is expected to achieve the following specific objectives:

A. Lectures:

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Objectives</th>
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</table>
| 1 & 2 | Haemolytic anaemia 1 & 2          | 1. Classify types of anaemia  
                                              2. List types of haemolytic anaemia  
                                              3. Discuss clinical manifestation and diagnostic tests for common haemolytic anaemia  
                                              4. Discuss the line of treatment for each type                                                      |
| 3 & 4 | Bleeding disorder (Coagulation disorders 1 & 2) | 1. Discuss the mechanisms of homeostasis  
                                              2. Provide a diagnostic approach for bleeding disorder  
                                              3. List major clinical examples of coagulation defect  
                                              4. Outline the principles of management of coagulation defect                                           |
| 5    | Acute leukemia                     | 1. Define acute leukemia  
                                              2. Identify the clinical manifestations of acute Leukemia  
                                              3. Suggest appropriate investigations for Leukemia & lymphoma with emphasis on histopathological, immunological and cytogenetics classification  
                                              4. Identify the prognostic criteria of leukemia  
                                              5. Outline the principle management of Leukemia                                                     |
| 6    | 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                                                      |
| 7    | 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) |
| 8    | 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                                                                       |
| 9. | 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 |
|---|---|---|---|---|---|---|---|---|
| 10. | 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 |
| 11. | 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 of therapy |
| 12. | 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. |
| 13. | 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 |
| 14. | 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. |
| 15. | Antibiotics. | 1. | Recognize general principles of pharmacokinetics and pharmacodynamics of antibiotics  
2. | Recognize the history of antibiotics evolution.  
3. | Describe different families of antibiotics  
4. | Identify mechanisms of action of antibiotics  
5. | Recognize the importance of appropriates use of antibiotics. |
| 16. | 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 |
| 17. | 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 |
| 18. | 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 |
| 19. 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 |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 20. Chromosomal abnormalities | 1. Identify the common chromosomal abnormalities and their 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 counseling for chromosomal abnormalities |
| 21. 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 principles of genetic counseling for chromosomal abnormalities |
| 22. 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 |
| 23. 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 |
| 24. 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 |
### B. SEMINARS:

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Objectives</th>
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</table>
| 1.  | Urinary tract infection (UTI)                                        | 1. Define UTI  
2. Suggest a diagnostic approach to patients with UTI  
3. Outline the treatment of UTI |
| 2.  | Water and sodium disturbances                                        | 7. Describe major signs and symptoms of water and electrolyte disturbances  
8. Describe the role of urine electrolytes & osmolality as well as plasma osmolarity in diagnosing water and sodium disturbances  
9. Outline the treatment of common water and sodium disturbances |
| 3.  | Gastro-esophageal reflux (GER), Abdominal pain                       | 1. Identify different causes of abdominal pain.  
2. Discuss symptoms and signs of GER  
3. Identify the difference between physiological and pathological GER  
4. Suggest investigation needed in patients with abdominal pain and GER  
5. Provided differential diagnosis of abdominal pain and principles of management.  
6. Outline the principle of therapy of GER |
| 4.  | Pneumonias and Bronchiolitis                                        | 1. Define pneumonia and bronchiolitis  
2. Outline the epidemiology of pneumonia and possible etiologies in DIFFERENT age group  
3. Describe the clinical and radiological feature of pneumonia and bronchiolitis  
4. Differentiate between upper and lower respiratory tract infection  
5. Outline the general role of management for lower respiratory tract infection according to the age and presentation |
| 5.  | Upper respiratory tract infection (URTI)                            | 6. Define URTI  
7. Outline the epidemiology of URTI and possible etiology in different age group  
8. Describe the clinical feature of URTI  
9. Outline the general role of management for URTI according to the age and presentation |
| 6.  | Exanthemas                                                           | 1. Identify different types of skin lessons and rash.  
2. Identify common childhood exanthema in term of etiology and diagnosis.  
3. Discuss ways of spread and prevention program for common exanthemas. |
| 7.  | Vasculitis                                                           | 1. Identify common vasculitis syndromes in children  
2. Discuss the clinical feature, prognosis and complication of Kawasaki disease and Henoch-Schonlein purpura (HSP) |
| 8.  | Thrombocytopenia and platelets disorders                             | 1. Describe the role of platelets and vessels on homeostasis  
2. List the major causes of purpura  
3. Discuss clinical manifestation and diagnostic tests for idiopathic thrombocytopenic purpura (ITP)  
4. Outline the management of acute and chronic ITP |
| 9.  | Nutritional anaemias                                                | 1. Review the pathophysiology of common nutritional anemias including vitamin B 12, folic acid, and iron deficiency  
2. Identify the clinical manifestations of nutritional anemias  
3. Provide relevant laboratory tests to diagnose nutritional anemia  
4. Outline the management of nutritional |
| 10. | Bronchial asthma                                                     | 1. Define bronchial 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 |
| 11. | Developmental Assessment | 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 |
| 12. | Neural Tube Defects (NTD) Lecture | 1. Describe the embryological basis of NTD  
2. Identify prenatal diagnosis of NTD  
3. Recognize the clinical variations, degrees and associations of NTD  
4. Discuss immediate and long term care of patients with NTD |
| 13. | Floppy baby and hypotonia | 1. Provide assessment for hypotonia in different age groups  
2. Differentiate between hypotonia of central and peripheral origin  
3. Identify common causes of hypotonia at each level of the neuronal axis  
4. Suggest investigation of a child with hypotonia |
| 14. | Low-birth- weight (LBW) , small and large for gestational age (SGA), (LGA) | 1. Define LBW, SGA, and LGA  
2. Discuss risk factors for each.  
3. Discuss problems & complications of each |
| 15. | Neonatal seizures (NN seizures) | 1. Discuss the incidence, etiology and the classification of NN seizures  
2. Provide general Approach to newborn infant with seizures.  
3. Outline management of NN seizures  
4. Discuss prognosis of NN seizures  |
| 16. | Respiratory distress syndrome (RDS), Respiratory disorders of newborns | 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 |
| 17. | 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 |
| 18. | Diabetes mellitus and 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 |
| 19. | Immunization | 1. define immunization both passive and active  
2. Discuss national program and WHO program of vaccination  
3. list DIFFERENT types of vaccine preparation  
4. Identify adverse reaction after vaccination  
5. list transient and permanent contraindication of vaccination  
6. Discuss special vaccine and its indication |
| 20. | Nutritional disease Failure to thrive (FTT) | 1. Recognize normal nutrition pattern  
2. Discuss normal caloric and nutritional requirements  
3. Identify causes of FTT  
4. Provide principles of management of FTT. |
| 21. | Heart Failure in pediatrics (HF) | 1. Define HF  
2. Discuss the mechanism of HF  
3. Describe clinical manifestations of HF according to age  
4. Suggest the investigations needed for HF  
5. Outline principle of management of HF |
| 22. | Arrhythmia in paediatrics | 1. Define arrhythmias  
2. Classify arrhythmias in paediatrics |
3. Describe the pathophysiology and presentation of arrhythmias
4. Outline the investigation and treatment of arrhythmias

<table>
<thead>
<tr>
<th>23.</th>
<th>Growth and Puberty</th>
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<tbody>
<tr>
<td>1.</td>
<td>Measure the three growth parameter</td>
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<tr>
<td>2.</td>
<td>Use the growth centile chart for height, weight and head circumference</td>
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<tr>
<td>3.</td>
<td>Identify the average increase in growth (growth velocity)</td>
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<tr>
<td>4.</td>
<td>Do pubertal Tanner staging for male and female</td>
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<tr>
<td>5.</td>
<td>Define delayed and precocious puberty</td>
</tr>
</tbody>
</table>
C. Bed side teaching:

This is a 4-hour hospital based daily sessions for a small group of students (about 15 students), supervised by a staff member, where the students acquire the following skills:
Taking appropriate history by taking history from patient himself or from his/her mother directly Do assessment of all growth parameter and use the growth percentile chart Conducting proper physical examination for patients with various common pediatric problems and in different age group
Do examination for primitive reflexes and developmental examination in different age group.
Also the students will acquire the skill of taking appropriate neonatal history, conducting proper neonatal physical examination and during their special rotation in neonatal units.

The students are expected to generate a problem list or differential diagnosis for common pediatric and neonatal problems and know how to reach a diagnosis by rationale utilization of laboratory and imaging facilities.

Lecture and seminar 4th year students

<table>
<thead>
<tr>
<th>Day</th>
<th>Session</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>2</td>
<td>Vaccination</td>
<td>Exanthems</td>
</tr>
<tr>
<td>Mon.</td>
<td>4</td>
<td>Approach to sepsis in neonatal</td>
<td>Inborn error of metabolism</td>
</tr>
<tr>
<td>Tus.</td>
<td>6</td>
<td>Pediatrics emergencies/Dr. Ektiesh</td>
<td>Fluid therapy</td>
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<tr>
<td>Wen.</td>
<td>8</td>
<td>Approach to weakness in childhood.</td>
<td>Cerebral palsy</td>
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<tr>
<td>Thu.</td>
<td>10</td>
<td>UTI</td>
<td>Hematuria in children</td>
</tr>
<tr>
<td>Sun</td>
<td>12</td>
<td>Cystic fibrosis / Dr. F. Ektiesh</td>
<td>Inherited hemolytic anemia &amp; Hemoglobinopathy</td>
</tr>
<tr>
<td>Mon.</td>
<td>14</td>
<td>RDS, Meconium aspiration, congenital pneumonia and TTN</td>
<td>Premature, SGA, LGA</td>
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<tr>
<td>Tus.</td>
<td>16</td>
<td>Acute hemolytic anemia</td>
<td>Nutritional anemias</td>
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<tr>
<td>Wen.</td>
<td>18</td>
<td>FUO &amp; Enteric fever &amp; Brucellosis</td>
<td>Immune deficiency disorders, HIV</td>
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<tr>
<td>Thu.</td>
<td>20</td>
<td>Abdominal Pain</td>
<td>Vomiting &amp; Reflux / GER</td>
</tr>
<tr>
<td>Sun</td>
<td>22</td>
<td>Growth &amp; Puberty/ Dr. Rimawi</td>
<td>Asthma</td>
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<tr>
<td>Mon.</td>
<td>24</td>
<td>A Cyanotic congenital heart dis</td>
<td>Cyanotic congenital heart dis.</td>
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<tr>
<td>Day</td>
<td>Section</td>
<td>Topic</td>
<td>Lecturer</td>
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<tr>
<td>26 Tus.</td>
<td>Diabetes mellitus &amp; DKA/ Dr. Khriesat</td>
<td>Floppy baby and hypotonia/ Dr. Daoud</td>
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</tr>
<tr>
<td>28 Wen.</td>
<td>Vasculites, Rh fever/ Dr Hayajneh</td>
<td>Anemia I + II (6th year lecture) Dr.Al-Sheyyab</td>
<td></td>
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<tr>
<td>Thur</td>
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<tr>
<td>30 Sun</td>
<td>Malabsorption,</td>
<td>Acute G.E Chronic diarrhea Dr. Miqdadi</td>
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<tr>
<td>32 Mon.</td>
<td>Hepatitis A</td>
<td>Hepatitis B Dr. Miqdadi</td>
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</tr>
<tr>
<td>34 Tus.</td>
<td>Aproach to proteinurea</td>
<td>Renal failure in children Dr. Jahid</td>
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</tr>
<tr>
<td>36 Wen.</td>
<td>Heart Failure in pediatrics/Dr.Khasawneh</td>
<td>Leukemia in children Dr.Al-Sheyyab</td>
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<tr>
<td>Thur.</td>
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<tr>
<td>37 Sun</td>
<td>Neonatal nutrition &amp; growth/Dr.Khasawneh</td>
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<tr>
<td>39 Mon.</td>
<td>Dr. Wail</td>
<td>Dr. Wail Dr. Wail</td>
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<tr>
<td>40 Tus.</td>
<td>Thromocytopenia and platelets/Dr.Sulaiman</td>
<td>Dr. Sulaiman</td>
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</tr>
<tr>
<td>42 Wen</td>
<td>Developmental assessment/ Dr.AbuRahmah</td>
<td>Bleeding disorder Dr.Al-Sheyyab</td>
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<td>Thur.</td>
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