

## COURSE PLAN

## FIRST: BASIC INFORMATION

<b>College</b>					
College	: Medicine				
Department	: Basic Medical Sciences				
<b>Course</b>					
Course Title	: Genitourinary System				
Course Code	: 31500361				
Credit Hours	: 6				
Prerequisite	: None				
<b>Instructor</b>					
Name	: Dr. Sameer Ahmad Naji AlHaj Mahmoud				
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Office Hours	:				
Class Times	Building	Day	Start Time	End Time	Room No.
	Lecture Hall Complex	Sunday, Monday, Tuesday Wednesday & Thursday	8:00	12:00	2
<b>Text Book</b>					

**ANATOMY:**

- 1.Principles of Human Anatomy. By G.J. Tortora, Latest edition.
- 2.Clinical Anatomy for Medical Students. By R.S. Snell, Latest edition.
- 3.Basic Histology, by L. Carlos Junqueira. Latest edition.
4. Before we are born. By K.L. Moore and T.V.N. Persaud, Latest edition.

**BIOCHEMISTRY:**

- 1.Biochemistry by Campbell & Farrell ,latest edition
- 2.Lippincott's Illustrated Reviews "Biochemistry" , latest edition
3. Supplementary Departmental Handouts

**PHYSIOLOGY:**

1. Textbook of Medical Physiology, by Guyton and Hall, 10<sup>th</sup> edition, 2000.
2. Review of Medical Physiology, by William F. Ganong, 20<sup>th</sup> edition, 2001.

**PATHOLOGY:**

Basic Pathology, by Kumar, Cotran and Robbins, Latest edition.

**PHARMACOLOGY:**

Lipincott's Illustrated Reviews: Pharmacology, Latest edition.

**MICROBIOLOGY:**

Sherris Medical Microbiology, Latest Edition. By Kenneth J Ryan Dean Academic Affairs Professor of Pathology Porfessor of Microbioogy and Immunology. Publisher: McGraw-Hill Education.

**COMMUNITY MEDICINE:** Supplementary Departmental handouts

**SECOND: PROFESSIONAL INFORMATION**

**COURSE DESCRIPTION**

This course covers male and female genitourinary systems from the standpoints of anatomy and histology and function including renal physiology which covers glomerular filtration, renal tubule functions, acid base balance and the role of the kidney in that. It also covers the physiology of the reproductive system of males and females, hormones and their functions as well as diseases of the genitourinary system and breast including infections, benign and malignant tumors, inflammation, placental disorders, gestation, infertility, renal failure and the treatment of these diseases. The course is concluded by covering the clinical aspects of the system including the study of signs, symptoms, and disease presentation.

**COURSE OBJECTIVES**

Upon Completion of this course students should be able to:

1. Describe the gross morphology of different organs forming the Urino-Genital System.
2. Understand the normal development of the Urino-Genital System and its congenital anomalies.
3. Discuss the vasculature, lymphatic drainage and innervation of different parts of the Urino-Genital System.
4. Understand various functions of the Urino-Genital System.
5. Describe the microscopic appearance of different components of the Urino-Genital System.
6. Discuss the microorganisms that infect the Urino-Genital System.
7. Understand the pathogenesis of various diseases of the Urino-Genital System.
8. List and describe the pharmacology of various drugs acting on the Urino-Genital System.
9. Understand the bases of the inherited diseases.

**COURSE LEARNING OUTCOMES**

- 1) Knowledge and Understanding  
Of the genitourinary system from ,embryology, anatomy, clinical biochemistry physiological functions, pathological diseases and drugs related to this system
- 2) Professional Skills : Differentiate between different types of tumors of the genitourinary system and recognize the different organisms causing diseases of the genitourinary by doing and looking at urinary cultutres.
- 3) Competences (Transferable skill and attributes)



## COURSE SYLLABUS

No	Title of Lectures 1st.Week	Learning Objectives
1	Introductory presentation for U.S. (Course Coordinator)	<ol style="list-style-type: none"> <li>1. Understand the general outline of the U.S. module.</li> <li>2. Be familiar with the modalities of teaching throughout the course.</li> <li>3. Acknowledge the important relation between normal and abnormal structure and function.</li> <li>4. Appreciate the importance of basic sciences in clinical application.</li> </ol>
2	General topographic anatomy of the urinary system. (Anatomy)	<ol style="list-style-type: none"> <li>1. Overview of the urinary system.</li> <li>2. Kidney: understand its gross appearance, location in the body, relation to important organs in the abdomen.</li> <li>3. Describe the shape of the kidney, renal capsule dimensions, surfaces, poles and the perirenal fat pad.</li> <li>4. Understand the gross appearance of the internal structures: cortex, medulla, calices and pelvis.</li> <li>5. Understand the blood supply and how it is distributed, the venous drainage and how it is collected.</li> <li>6. Discuss the lymphatic drainage and nervous control of the kidney.</li> </ol>
3	Gross anatomy of the urinary system, blood vessels, lymphatic drainage and innervation. (Anatomy)	<ol style="list-style-type: none"> <li>1. Understand the anatomical structure of the ureter and its location in the body.</li> <li>2. Describe how pain is referred from both kidneys and ureters.</li> <li>3. Understand the blood supply, venous drainage and lymphatics of the urinary system.</li> <li>4. Discuss the innervation of different parts of the urinary system, with special attention to the nervous control of urinary bladder.</li> </ol>
4	Embryology of the urinary system. (Anatomy)	<ol style="list-style-type: none"> <li>1. Understand the development of the kidney and related organs of the urinary system.</li> <li>2. Define the pronephrons, mesonephrons and metanephrons.</li> <li>3. Understand the major and common congenital abnormalities in the urinary system.</li> </ol>
5	Histology of the kidney. (Anatomy)	<ol style="list-style-type: none"> <li>1. Describe the normal microscopic appearance of the different parts of the kidney including cortex, medulla, juxtaglomerular apparatus and the distribution of the vasculature within the kidney.</li> <li>2. List the different parts of the nephron with the details of each part.</li> </ol>
6	Congenital and cystic diseases of the kidney. (Pathology)	<ol style="list-style-type: none"> <li>1. Define the main congenital diseases of the kidney.</li> <li>2. Understand different types, pathogenesis, morphology, and presentation of cystic diseases of the kidney.</li> </ol>
7	Glomerular filtration (GF). (Physiology)	<ol style="list-style-type: none"> <li>1. Review the functions of the nephron.</li> <li>2. Understand the process of renal blood flow and glomerular</li> </ol>

		<p>filtration.</p> <p>3. Understand the glomerular membrane, and the dynamics of glomerular filtration.</p> <p>4. List the factors that affect glomerular filtration rate (GFR).</p>
8	Reabsorption and secretion. (Physiology)	<p>1. Understand the transport and the pathways of reabsorption.</p> <p>3. Discuss the reabsorption of H<sub>2</sub>O and electrolytes.</p> <p>4. Discuss the reabsorption of glucose, urea, creatinine and protein.</p>
9	Special aspects of renal metabolism. Role of kidney in acid base balance. (Biochemistry)	<p>1. Discuss amino acids absorption by the kidney and their disorders.</p> <p>2. Discuss creatinine metabolism.</p> <p>3. Understand the role of kidney in the regulation of hydrogen ions and bicarbonate buffer system.</p>
10	Regulation of the GF and renal-blood flow (RBF). (Physiology)	<p>1. Understand the autoregulation and tubuloglomerular feedback.</p> <p>2. Understand the juxtaglomerular apparatus and its role in renin-angiotensin system.</p> <p>3. Understand the glomerulotubular balance.</p>
11	Glomerulonephritis. (Pathology)	<p>1. Discuss the pathogenesis of glomerulonephritis.</p> <p>2. Recognize the basic reactions of glomerulus to injury.</p> <p>3. List the different renal syndromes associated with renal pathology.</p>
12	Nephritic syndrome. (Pathology)	<p>1. Discuss the manifestations and mechanism of nephritic syndrome.</p> <p>2. List the types of glomerulonephritis associated with nephritic syndrome.</p> <p>3. Discuss the etiology, pathogenesis, morphology and clinical features of the common types of glomerulonephritis leading to nephritic syndrome.</p>
13	Nephrotic syndrome. (Pathology)	<p>1. List the components of nephrotic syndrome.</p> <p>2. Discuss the pathogenesis of nephrotic syndrome.</p> <p>3. List the main causes of nephrotic syndrome.</p> <p>4. Discuss the etiology, morphology, pathogenesis and clinical features of the common types of glomerulonephritis leading to nephrotic syndrome.</p>
14	Glomerular pathology in systemic disease. (Pathology)	<p>1. Discuss the glomerular lesions associated with</p> <ul style="list-style-type: none"> <li>- Diabetes mellitus.</li> <li>- Systemic lupus erythematosus.</li> <li>- Henoch-shonlein purpura.</li> <li>- Multiple myeloma.</li> <li>- Gout.</li> <li>- Endocarditis.</li> </ul>

	<b>2<sup>nd</sup> Week</b>	
15	Parameter of renal active transport. (Physiology)	<ol style="list-style-type: none"> <li>1. Discuss the renal tubular transport maximum (T<sub>m</sub>).</li> <li>2. Define the filtered load and excretion.</li> <li>3. Understand the glucose and para-aminohippuric acid (PAH) titration curve.</li> </ol>
16	Renal clearance. (Physiology)	<ol style="list-style-type: none"> <li>1. Understand the mechanisms of renal clearance and its applications.</li> <li>2. Describe the inulin, creatinine and PAH clearance.</li> </ol>
17	Renal concentration and dilution of urine. (Physiology)	<ol style="list-style-type: none"> <li>1. Understand the mechanisms of dilution and concentration                         <ul style="list-style-type: none"> <li>- Counter current multipliers.</li> <li>- Counter current exchangers.</li> </ul> </li> <li>3. Discuss the role of urea.</li> </ol>
18	Diuretic agents-I. (Pharmacology)	<ol style="list-style-type: none"> <li>1. List major types of diuretics and relate them to their sites of action.</li> <li>2. List the major applications, toxicities, and the efficacy of thiazides, loop diuretics and potassium-sparing diuretics.</li> <li>3. Describe two drugs that reduce potassium loss during diuresis.</li> </ol>
19	Diuretic agents-II. (Pharmacology)	<ol style="list-style-type: none"> <li>1. Describe a therapy that will reduce calcium excretion in patients who have recurrent urinary stones.</li> <li>2. Discuss the principle of force diuresis.</li> <li>3. Describe the drugs for reducing urine volume in nephrogenic diabetes insipidus.</li> </ol>
20	Gross anatomy and histology of ureter urinary bladder and urethra. (Anatomy)	<ol style="list-style-type: none"> <li>1. Describe the structure of the urinary bladder and its relations to the peritoneum.</li> <li>2. Understand the urethra and the difference between males and females.</li> <li>3. Describe the structure and relations of the male urethra in different regions.</li> <li>4. Describe the microscopical appearance of the ureter, urinary bladder and urethra.</li> <li>5. Compare the histological appearance of the distended and contracted bladder.</li> </ol>
21	Urinary tract infection. (Microbiology)	<ol style="list-style-type: none"> <li>1. Understand the role of <i>E.coli</i> and other gram negative bacteria as well as gram positive organisms in UTI, their laboratory diagnosis and susceptibility to antibiotics.</li> </ol>
22	Diseases of blood vessels; Renal failure. (Pathology)	<ol style="list-style-type: none"> <li>1. Define causes, pathogenesis, pathology and presentation of renal diseases of blood vessels.</li> <li>2. Contrast acute and chronic renal failure with the emphasis on pathogenesis, causes, morphology and clinical course</li> </ol>

3rd.Week		
23	Drugs and the Kidney. (Pharmacology)	<ol style="list-style-type: none"> <li>1. Understand the usefulness of altering urine pH by drugs.</li> <li>2. Discuss the mechanisms by which drugs and chemicals damage the kidney.</li> <li>3. Understand how to select and prescribe drugs for patients with renal impairment.</li> </ol>
24	Schistosomiasis. (Microbiology)	<ol style="list-style-type: none"> <li>1. Describe <i>Schistosoma Hematobium</i>, its pathogenesis, immune response, epidemiology, life cycle and clinical manifestations.</li> <li>2. Describe the laboratory diagnosis, treatment, prevention and control measures.</li> </ol>
25	Tubulointerstitial nephritis; urinary tract infection. (Pathology)	<ol style="list-style-type: none"> <li>1. Define the features and general morphology of tubulointerstitial nephritis.</li> <li>2. Define the pathogenesis, morphology &amp; clinical features of drug induced tubulointerstitial nephritis.</li> <li>3. Define the morphology &amp; clinical features of acute and chronic pyelonephritis.</li> <li>4. Define the morphology and clinical features of obstructive uropathy and the common sites of ureteric obstruction.</li> <li>5. Discuss the pathogenesis, clinical features and types of urinary stones.</li> <li>6. Discuss the predisposing factors, causes and pathology of cystitis.</li> </ol>
26	Renal tumors; Pathology of ureter and urinary bladder. (Pathology)	<ol style="list-style-type: none"> <li>1. Discuss the main features of Angiomyolipoma and Oncocytoma (Benign renal neoplasms)</li> <li>2. Discuss the risk factors, morphology and clinical features of renal cell carcinoma (RCC).</li> <li>3. List the main features of urothelial carcinoma of the renal pelvis.</li> <li>4. Discuss the risk factors, morphology and clinical features of Nephroblastoma.</li> <li>5. Describe the pathology of bladder cancer including; epidemiology, types, grading, staging and prognosis.</li> </ol>
27	Living and Radiological Anatomy. (Anatomy)	<ol style="list-style-type: none"> <li>1. Discuss the normal position of different parts of the urinary system with the help of living examination.</li> <li>2. Understand the radiological examination, normal plain KUB and normal IVP.</li> </ol>
28	Pelvic walls, perineum, and pelvic diaphragm. (Anatomy)	<ol style="list-style-type: none"> <li>Describe the structure of bony pelvis, perineum, and pelvic diaphragm.</li> <li>2. Discuss the nerves of the pelvis.</li> <li>3. Describe the radiographic images and the surface landmarks of the pelvis.</li> </ol>

29	Urogenital diaphragm in both males and females. (Anatomy)	1. Describe the perineum and its boundaries. 2. Describe the anal triangle including anal canal, levatori anni muscles and anal sphencters. 3. Describe the urogenital triangle.
30	Anatomical components of male reproductive system. (Anatomy)	1. Describe the peritonal foldings on the pelvic viscera in the male. 2. Describe the male genital organs. 3. Describe the relationship, blood supply, innervation, and lymph drainage of all the above.
<b>4th.Week ( Mid-course exam = 40 % ) – Block week</b> <b>5<sup>th</sup>. Week</b>		
31	Developmental Anatomy. “Embryology” of the reproductive system. (Anatomy)	1. Describe the development of gonads, genital ducts and external genitalia. 2. Describe the descent of testes and ovaries.
32	Hormonal regulation of sex determination. (Physiology)	. Discuss the role of various hormones and factors involved in sex differentiation.
33	Male reproductive physiology. (Physiology)	1. Discuss the endocrine regulation of male reproduction. 2. Understand the functions of the male reproductive organs and glands. 3. Discuss the spermatogenesis process. 4. Discuss the male reproductive dysfunction.
34	Histology of the male repropductive system. (Anatomy)	. Describe the histological features of the male reproductive system.
35	Androgens and their antagonists. (Pharmacology)	1. Classify and understand the nature and the mechanism of action of androgens and androgen antagonists. 2. Discuss the therapeutic uses of androgens and their abuse potential.
36	Disease of the penis, scrotum and testis. (Pathology)	1. Identify the pathologic features of condyloma acuminatum, giant condyloma, Bowen’s disease, Bowenoid papulosis, and erythroplasia of Queyrat. 2. Identify the etiology, pathology and complications. of cryptorchidism. 3. Classify testicular tumors with emphasis on the tumor markers of seminoma, embryonal carcinoma, teratoma, yolk sac tumor and choriocarcinoma.
37	Diseases of the prostate. (Pathology)	1. Identify the pathologic features of acute prostatitis, chronic prostatitis and chronic non-bacterial prostatitis. 2. Discuss the incidence, hormonal effects and pathology of prostatic nodular hyperplasia. 3. Recognise the incidence, hormonal effects, pathology, clinical, pathways of spread, staging, and tumor markers of prostatic carcinoma.



38	Anatomical components of the female internal reproductive system. (Anatomy)	1. Describe the peritoneal foldings on the pelvic viscera in the female. 2. Describe the structure of the female genital organs.
39	Anatomical components of the female external reproductive system. (Anatomy)	1. Describe the organs of the female urogenital triangle. 2. Describe the relationship, blood supply, innervation, and lymph drainage of all the above organs.
40	Erection. (Physiology)	1. Discuss the mechanism and disorders of the erection process.
41	Histology of the female reproductive system. (Anatomy)	Describe the histological features of the ovaries, uterine tube, uterus and vagina.
42	Female reproductive physiology-I. (Physiology)	List the hormones of female reproduction and describe their functions. 2. List the functions of the female reproductive system. 3. Describe the pituitary ovary axis and the changes that occur in the ovaries leading up to and following ovulation during an ovarian cycle.
43	Female reproductive physiology-II. (Physiology)	1. Describe the normal sequence of events of puberty in the female. 3. Discuss the structural changes that occur in the endometrium during the menstrual cycle and explain how these changes are hormonally controlled. 5. Describe the physiology of the menopause. 6. Describe the disorders of reproductive function.
44	Disease of the vulva and vagina. (Pathology)	1. Recognise the histopathology and clinical significance of Lichen sclerosis, squamous hyperplasia, vulvar dystrophy, leukoplakia, extramammary Paget's disease, condyloma acuminata, condyloma lata and vulvar intraepithelial neoplasia types (I,II,III). 2. Describe the pathologic characteristics and sites of metastases for squamous cell carcinomas of vulva and vagina.
<b>6<sup>th</sup> Week</b>		
45	Gonorrhoea. (Microbiology)	1. Understand the role of <i>Neisseria gonorrhoeae</i> as the commonest cause of sexually transmitted diseases. 2. Describe the laboratory diagnosis, pathogenesis, susceptibility to antibiotics and epidemiology of <i>N.gonorrhoeae</i> .
46	& Ectoparasites. (Microbiology)	1. Describe <i>Trichomonas vaginalis</i> and other ectoparasites transmitted by sexual means, their morphology, structural features and life cycle. 2. Briefly describe clinical presentations and drugs used for treatment.
47	Physiology of pregnancy.	1. Describe, fertilization, transport and implantation of the

	(Physiology)	<p>developing ovum.</p> <p>2. Describe the function of placenta.</p> <p>3. Describe the response of the mother's body to pregnancy.</p> <p>4. Describe and discuss fetal circulation.</p>
48	Female sex steroids and contraceptives agents. (Pharmacology)	<p>1. Describe the nature, mechanisms of actions and the adverse effects of female sex steroids and various female contraceptive agents.</p> <p>2. Indicate the therapeutic applications of antiestrogenic agents.</p>
49	Diseases of the cervix. (Pathology)	<p>1. Describe the histopathologic changes, age incidence and risk factors for cervical intraepithelial neoplasia and its association with human papilloma virus.</p> <p>2. Discuss the age incidence, predisposing factors, pathologic characteristics and sites of metastases for squamous cell carcinoma of the cervix.</p>
50	Infections by <i>Chlamydia</i> , <i>Gardnerella</i> , & <i>Ureaplasma</i> . (Microbiology).	<p>1. Describe the differences in structure, morphology and replication of these organisms from other bacteria or viruses.</p> <p>2. Describe the pathogenesis stressing the role of virulence factors and their implication on the clinical picture.</p> <p>3. Describe laboratory diagnosis and rationale behind treatment.</p>
51	Parturition and lactation. (Physiology)	<p>1. Discuss the factors currently thought to be involved in the initiation of parturition.</p> <p>2. Discuss the hormonal requirements for mammary gland development and establishment of lactation.</p> <p>3. Describe the milk composition.</p>
52	Diseases of the breast-I. (Pathology)	<p>1. Understand the diagnostic approach to palpable and non-palpable breast lesions.</p> <p>2. Describe the non-neoplastic disorders and benign tumors of the breast with emphasis on mastitis, fat necrosis, fibrocystic changes in the breast, fibroadenoma, phyllodes tumor, and intraduct papilloma.</p> <p>3. List breast cancer risk factors.</p>
53	Diseases of the breast-II. (Pathology)	<p>1. Describe the major types of breast cancer including, insitu, invasive ductal, lobular, medullary, mucinous and tubular carcinomas.</p> <p>2. List the important factors in assessing the prognosis of breast cancer.</p> <p>3. Understand the role of estrogen and progesterone receptors in the management of breast cancer.</p>
54	Drugs acting on the uterus. (Pharmacology)	<p>1. Describe drugs (stimulants and relaxants) of the uterus and their therapeutic uses and adverse effects.</p>

55	Disease of the uterus. (Pathology)	<ol style="list-style-type: none"> <li>1. Distinguish between endometriosis, adenomyosis and endosalpingiosis by, clinical, pathologic and natural history.</li> <li>2. Distinguish between the different types of endometrial hyperplasia by histologic, clinical and natural history.</li> <li>3. Understand the age incidence, and pathologic findings, of leiomyoma and leiomyosarcoma of uterus.</li> <li>4. Identify age incidence, predisposing factors, hormonal influence, pathologic characteristics and sites of metastases for endometrial carcinoma.</li> </ol>
56	Syphilis. (Microbiology)	<ol style="list-style-type: none"> <li>1. Describe the morphology of <i>Treponema pallidum</i>, pathogenesis and laboratory diagnosis of the disease.</li> <li>2. Describe the various stages of the disease and appropriate treatment as well as preventive measures.</li> </ol>
57	Diseases of the ovaries and fallopian tubes. (Pathology)	<ol style="list-style-type: none"> <li>1. Classify ovarian tumors with the emphasis on serous, mucinous, endometrioid carcinoma, epithelial tumors and germ cell tumors of the ovary.</li> <li>2. Describe the age incidence, predisposing factors, pathologic characteristics, sites of metastases for epithelial tumors and germ cell tumors of the ovary.</li> </ol>
58	<i>HIV and AIDS</i> (Microbiology)	<ol style="list-style-type: none"> <li>1. Describe the nature of the virus, life cycle and its role in the understanding of pathogenesis and immunopathology of AIDS with emphasis on its epidemiology.</li> <li>2. Describe the laboratory measures for screening, confirmation and follow up of treatment.</li> <li>3. Highlight the treatment regimens and preventive measures.</li> </ol>
59	<i>Herpes, Cytomegalo Virus, Human Papilloma Virus and Moluscum contagiosum.</i> (Microbiology)	<ol style="list-style-type: none"> <li>1. Describe the structure, morphology, replication cycle and serotypes of each virus as well as epidemiology of the diseases they cause.</li> <li>2. Describe the pathogenesis and role of these viruses in cervical cancer.</li> <li>3. Describe the cell culture and serology for identification and highlight role of antiviral drugs in treatment</li> </ol>
60	Gestational disease. (Pathology)	Describe age incidence, predisposing factors, natural history and pathologic characteristics for complete and partial hydatidiform mole, invasive mole and gestational choriocarcinoma.
61	<i>Candidiasis.</i> (Microbiology)	<ol style="list-style-type: none"> <li>1. Describe the morphology of <i>Candida albicans</i>, its pathogenesis and the association between the immune system and fungal infections.</li> <li>2. Briefly describe clinical presentation and the nature of the vaginal discharge.</li> </ol>

		3. Describe laboratory methods of diagnosis as well as drugs used for treatment.
62	Genital-urinary tract infections. (Public Health)	. Identify the risk factors for genital-urinary tract infections and disease.
63	Community awareness (Public Health)	. Describe methods to promote community awareness regarding menses, menstrual changes, and fertility.

## Practical Laboratory Sessions

Lab #	Lab. Title	Objectives
1	Gross anatomy of the urinary system. (Anatomy)	<ol style="list-style-type: none"> <li>1. Define different parts of the urinary system in the abdomen and pelvis.</li> <li>2. Localize the kidney within posterior abdominal compartment , and its relation to the surrounding organs.</li> <li>3. Trace the ureter from the pelvis of the kidney until the urinary bladder.</li> <li>4. Define the urinary bladder and apply knowledge about its relations in the pelvic cavity both in males and females.</li> <li>5. Compare the urethra in both sexes.</li> <li>6. Identify all parts of the urinary system in normal conditions on plain X-rays and IVP.</li> <li>7. Identify major congenital anomalies affecting this system by imaging techniques.</li> </ol>
2	Histology. (Anatomy)	<ol style="list-style-type: none"> <li>1. Identify the microscopical appearance of the: <ul style="list-style-type: none"> <li>- Nephron and its parts.</li> <li>- Renal medulla.</li> <li>- Ureter.</li> <li>- Urinary bladder.</li> </ul> </li> </ol> <p>- Urethra.</p>
3	Glomerular pathology. (Pathology)	<ol style="list-style-type: none"> <li>1. Identify the main light microscopical features of the different types of glomerulonephritis plus selected examples of electron microscopic (EM) and immunofluorescence (IF). (for this class use Webpath images &amp; glass slides from your slide box).</li> </ol>
4	Non-neoplastic diseases of the kidney. Neoplasms of kidney and urothelial tumors. (Pathology)	<ol style="list-style-type: none"> <li>1. Identify the congenital and cystic diseases of the kidney grossly.</li> <li>2. Examine kidneys with pyelonephritis grossly and microscopically.</li> <li>3. Examine kidneys with hydronephrosis, lithaiasis and tuberculosis grossly; (for this class use Webpath, glass slides and gross specimens in the museum)</li> <li>4. Examine the gross and histological slides of renal cell carcinoma and nephroblastoma (Wilms tumor).</li> </ol>

		5. Examine urinary bladder cancer grossly and histologically; (for this class use the Webpath, glass slides and gross specimens).
5	Urinalysis and urine culture (Microbiology)	<ol style="list-style-type: none"> <li>1. Describe methods of urine collection.</li> <li>2. Examine the following characteristics of urine: <ul style="list-style-type: none"> <li>-Physical.</li> <li>-Chemical.</li> <li>-Microscopic.</li> </ul> </li> <li>3. Demonstrate the lab diagnosis of urinary tract infection.</li> <li>4. Demonstrate the significance of antibiotic sensitivity test in urinary tract infection.</li> <li>5. Identify the morphological features of <i>Schistosoma Hematobium</i></li> </ol>
6	Pelvis I. (Anatomy)	<p><i>Describe the following:</i></p> <ol style="list-style-type: none"> <li>1. Bony pelvis.</li> <li>2. Pelvis muscles.</li> <li>3. Pelvic peritoneum.</li> <li>4. Urogenital triangle in males.</li> <li>5. Male internal genitalia: <ul style="list-style-type: none"> <li>- Vas deferens.</li> <li>- Seminal vesicles.</li> <li>- Ejaculatory ducts.</li> <li>- Prostate.</li> <li>- Prostatic urethra.</li> </ul> </li> </ol>
7	Pelvis II. (Anatomy)	<p><i>Describe the following:</i></p> <ol style="list-style-type: none"> <li>1. Female internal genitalia: <ul style="list-style-type: none"> <li>- Ovary</li> <li>- Uterine (Fallopian) tube.</li> <li>- Uterus.</li> <li>- Vagina.</li> </ul> </li> <li>2. The perineum.</li> <li>3. Anal triangle.</li> <li>4. Urogenital triangle in females.</li> <li>5. Vessels and nerves of pelvis and perineum.</li> </ol>
8	Male reproductive system. (Pathology)	<ol style="list-style-type: none"> <li>1. Identify the gross and histological features of: <ul style="list-style-type: none"> <li>- Benign prostatic hyperplasia.</li> <li>- Carcinoma of the prostate.</li> <li>- Carcinoma of the penis.</li> <li>- Testicular tumors.</li> </ul> </li> <li>2. Identify the gross appearance of hydrocele and torsion of testis.</li> <li>3. Identify the histological features of testicular atrophy associated with infertility cases.</li> </ol>

9	Female genital tract-I. (Pathology)	1. Identify and recognize the pathologic changes in: - Human papilloma virus infection. - Squamous cell carcinoma of the vulva, vagina and cervix. - Dysplasia and squamous intraepithelial neoplasia of the cervix. - Endometrial adenocarcinoma. - Adenomyosis and endometriosis. - Benign and smooth muscle tumors of the uterus.
10	Female genital tract-II. (Pathology)	1. Identify and recognize the pathologic changes in: - Ectopic tubal pregnancy. - The following ovarian tumors: serous, mucinous, granulosa cell, teratomas and Krukenberg tumor - Gestational disease: molar pregnancies and choriocarcinoma.

#### COURSE LEARNING RESOURCES

Lectures, Labs, clinical case discussion, video sessions and seminars.

#### ONLINE RESOURCES

{ Write some useful websites related to the course and other material that help students to complete the course successfully. }

This system is taught by more than one staff. Each staff is free to give online links to the students as a learning resources . These links are downloaded on the e-learning site for students .

#### ASSESSMENT TOOLS

( Write assessment tools that will be used to test students ability to understand the course material and gain the skills and competencies stated in learning outcomes

ASSESSMENT TOOLS	%
Participation	
Practicals	20
Mid Exam	40
Final Exam	40
<b>TOTAL MARKS</b>	<b>100</b>

**THIRD: COURSE RULES****ATTENDANCE RULES**

Attendance and participation are extremely important, and the usual University rules will apply. Attendance will be recorded for each class. Absence of 10% will result in a first written warning. Absence of 15% of the course will result in forfeiting the course and the student will not be permitted to attend the final examination. Should a student encounter any special circumstances (i.e. medical or personal), he/she is encouraged to discuss this with the instructor and written proof will be required to delete any absences from his/her attendance records.

**GRADING SYSTEM**

Points	Grade
4	A
3.75	A-
3.5	B+
3	B
2.75	B-
2.5	C+
2	C
1.75	C-
1.5	D+
1	D
0.75	D-
0.5	F

**REMARKS**

Use of Mobile Devices During Class is prohibited. Therefore students are required to turn off their mobile devices.

**COURSE COORDINATOR**

Course Coordinator: Dr. Sameer Ahmad Naji

Department Head: Dr. Izzidin Kaddumi

Signature: Sameer

Signature:

Date: 17/6/2020

Date: