Syllabus: Genitourinary System (0111501304)

Second Semester 2024/2025

COURSE INFORMATION	
Course Name: Genitourinary System **Semester:** Second 2024/2025 **Department:** Microbiology, Pathology and forensic medicine **Faculty:** Medicine	**Course Code:** 0111501304 **Section:** **Core Curriculum**:
Day(s) and Time(s): All week: Group (1) 8:00 – 2:00 am Group (2) 9:00 – 3:00 am **Classroom:** Faculty of Medicine Theater	**Credit Hours:** 7 **Prerequisites**: None

COURSE DESCRIPTION

The Genitourinary System is an intensive multidisciplinary 7 credit hour course designed to provide students the basic sciences and clinical framework for topics in genitourinary system. The course is designed to assist the student in integrating the different disciplines' lectures and practical's in each system including anatomy, physiology, pathology, microbiology, pharmacology, biochemistry, and community medicine.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom based discussion
- Relevant films and documentaries
- Video lectures
- E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team

FACULTY INFORMATION

Name	**Hafez Al-momani**
Academic Title:	**Associated Professor**

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Office Hours:	**Monday** 11:30 -13:00 **Wednesday** 11:30 -13:00

REFERENCES AND LEARNING RESOURCES

Author	Title
Anatomy: G.J. Tortora R. S. Snell, latest edition. Frank H. Netter or Grants L. Carlos Junqueira K. L. Morre & T. V. N. Persaud	Principles of Human Anatomy latest edition**.** Clinical Anatomy for Medical Students, latest edition Atlas of Human Anatomy Basic Histology. latest edition Before we are born. latest edition
Physiology: Guyton & Hall, latest edition.	Textbook of Medical physiology. By Guyton & Hall, latest edition
Biochemistry: Robert K. Murray & Co.	Harper's Biochemistry Harper's Biochemistry, latest edition
Pathology: Kumar, Abbas & Aster.	Robbins Basic Pathology, latest edition (10th edition)
Microbiology: Sheries	Medical Microbiology. An Introduction to Infectious Diseases. latest edition.
Pharmacology: Lippincott's	Illustrated Reviews Pharmacology, latest edition.
Public Health (Community Medicine)	Supplementary Departmental Handouts

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STUDENT LEARNING OUTCOMES MATRIX*

Program Learning Outcomes	Course Objectives	Course Student Learning Outcomes	Assessment Method
	1. Knowledge and understanding:	1. Overview of parts & functions of urinary system.	• Exams

PHAR-LO-1: Upon successful completion of this course students will be able to … 1. Describe the gross morphology of different organs forming the Genito-Urinary System. 2. Understand the normal development of the Genito-Urinary System and its congenital anomalies. 3. Discuss the vasculature, lymphatic drainage and innervation of different parts of the GenitoUrinary System. 4. Understand various functions of the Genito-Urinary System. 5. Describe the microscopic appearance of different components of the Genito-Urinary System. 6. Discuss the microorganisms that infect the Genito-Urinary System. 7. Understand the pathogenesis of various diseases of the Genito-Urinary System. 8. List and describe the pharmacology of various drugs acting on the Genito-Urinary System. 9. Understand the bases of the inherited diseases.y used drugs in clinical practice.	By the end of the course, the student will be able to	2. Understand the location, shape and surfaces of kidney. 1. Describe the coverings of kidney its significance, and the relations of both kidneys. 2. Understand the gross structure of a coronal section of the kidney. 3. describe the blood supply, nerves and lymphatic drainage of Kidney 4. Define Prerenal, Renal, & Post Renal Azotemia & Uremia. 5. Defined the 8 Major Syndromes of renal diseases, according to 6. their clinical manifestations 7. Describe the Normal Glomerulus (G). 8. Classify Glomerular Diseases: [Primary, Secondary to Systemic 9. Diseases, & Hereditary Disorders]. 10. Describe the Pathogenesis, Light, Electron,& 11. Immunofluorescence Microscopic Changes & Fate of: 12. Glomerulonephritis (GN) Caused by Circulating Immune Complexes, 13. (II) Anti-Glomerular Basement Membrane Antibody GN, & 14. (III) Antibodies reacting in situ with previously "planted" nonglomerular Ags 15. . List kidney functions 16. Describe the functions of the nephron. 17. Explain the process of renal blood flow and glomerular filtration. 18. Illustrate the glomerular membrane, and the dynamics of 19. glomerular filtration. 20. List the factors that affect glomerular filtration rate (GFR). 21. . Understand the role of E. coli and other gram negative 22. bacteria as well as gram positive organisms in UTI. 23. 2. The laboratory diagnosis and susceptability of these 24. microorganisms to antibiotics. 25. Define STD 3. Discuss the epidemiological importance of STD 4. Classify the causative pathogens Methods of Transmission 26. Describe different types of STD regarding clinical presentation and treatment	• "On-line' reading assignments • Self-tests

		27. 7. Discuss strategies for control of STD	
	2. Practical skills: By the end of the course, the student will be able to	2.1. Perform with precision different techniques of diagnosis urogenital disease 2.2. Select the proper drug(s) for the proper common clinical situations in proper dosage (bacterial infections, STIs)	• Exams • "On-line' reading assignments • Self-tests
	3. Professional Attitude and Behavioural skills: By the end of the course, the student will be able to	3.1. Demonstrate respect and work effectively as a member or a leader of an interdisciplinary team. 3.2. Establish good relations with colleagues to share all types of inter-professional activities including shared learning. 3.3. explain clearly therapeutic plan for different clinical situations specified in 2.2	• Exams • "On-line' reading assignments Self-tests
	4. Communication skills: By the end of the course, the student will be able to	4.1. Communicate clearly, sensitively, and effectively with colleagues from a variety of health and social care professions. 4.2. Establish good relations with other health care professionals regardless their degrees or rank. 4.3. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities. 4.4. Cope up with difficult situations as breaking news. 4.5. Respect superiors, colleagues, and all members of the health profession.	• Exams • "On-line' reading assignments • Self-tests
	6. General and transferable skills : By the end of the course, the student will be able to	6.1. Establish life- long self- learning required for continuous professional development. 6.2. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice. 6.3. Retrieve, manage, and manipulate information, including electronic means. 6.4. Present information clearly in written, electronic and oral forms. 6.5. Establish effective interpersonal relationship to communicate ideas and arguments. 6.6. Work effectively as a member or a leader of an interdisciplinary team.	• Exams • "On-line' reading assignments • Self-tests

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect

their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section:
Tel:
Location:
Email:

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**

- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

<u>The instructor has the right to fail the coursework or deduct marks where plagiarism is detected</u>

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam on the scheduled date without prior permission, and are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
Midterm Exam (1)	40%	March.2025 10-11 am
Practical Exam (2)	20%	April.2025 10-11 am
Final Exam (3)	40%	April 2025 10-11.30 am

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of multiple choice questions.

Self-tests: Will be given for each chapter. The answers of self-tests are given at the end of the chapter.

Make-up exams: Only documented absences will be considered as per HU guidelines. Exam will consist of short essay questions

Grades: are not negotiable and are awarded according to the following criteria:

Letter Grade	Description	Grade Points
A+	Excellent	93
A		86
A-		80
B+	Very Good	77
B		74
B-		70
C+	Good	67
C		64
C-		60
D+	Pass	55
D	Pass	50
F	Fail	<50
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

"Lecture hours and weeks are approximate and may change as needed"

-Kidney: Homeostasis and Disease

1. General topographic anatomy of the urinary system (Anatomy 1)
2. Histology of the kidney (anatomy 2)
3, 4. Renal hemodynamics and glomerular filtration (physiology 1 and 2)
5. Urea, Creatinine metabolism (biochemistry 1)
6. Gross anatomy and histology of the ureter, urinary bladder and urethra (anatomy 3)
7.8 Tubular functions: Reabsorption and secretion. (physiology 3 and 4)
9. Gross anatomy of the urinary system, blood vessels, lymphatic drainage and innervation (anatomy 4)
10, 11, 12. Glomerular diseases (pathology 1&2&3)
13. Renal clearance (physiology 5)
14, 15. Glomerular diseases (pathology 4 and 5)
16, Urine components (biochemistry 2)
17. Concentration and dilution of urine (physiology 6)
18, 19. Diuretics (Pharmacology 1 and 2)
20. Renal Acid-base balance regulation (physiology 7)
21. Vascular diseases of the kidney (Pathology 6)
22. Cystic diseases of the kidney, nephrolithiasis and hydronephrosis (pathology 7)

23. Upper urinary tract infections (microbiology 1)
24. Lower urinary tract infections (microbiology 2)
25. Treatment of urinary tract infections (pharmacology 3)
26. Embryology of urinary system (anatomy 5)
27. Renal cell and bladder carcinoma (pathology 8)

Men's Health
32. Anatomical components of the male reproductive system (Anatomy 6)
33. Histology of the male reproductive system (anatomy 7)
34, 35. Male reproductive physiology (physiology 8 and 9)
36. Diseases of the penis, testis and epididymis (pathology 9)
37. Diseases of the prostate (pathology 10)
38. Androgen therapy (pharmacology 4)

-Women's Health
40, 41 Anatomical components of the female reproductive system (anatomy 8 and 9)
42. Histology of the female reproductive system (anatomy 10)
43, 44. Female reproductive physiology (physiology 10 and 11)
45. The female genital system diseases of the vulva, vagina, & cervix (pathology 11)
46. Carcinoma of the cervix (pathology 12)
47. Diseases of the uterus (pathology 13)
48. Tumors of the ovary (pathology14)
49. Candidiasis (Microbiology 3)
50, 51 Gestational physiology and maternal changes in pregnancy (physiology 12 and 13)
52. Diseases of pregnancy (pathology 15)
53. Diseases of the breast (pathology 16)
54. Breast cancer (pathology 17)
55, 56. Female sex steroids and contraceptive agents (pharmacology 5 and 6)
57. Uterine acting drugs (pharmacology 7)
58. Gynecology: Pregnancy and contraception (1 lecture)
59. General Surgery: Breast cancer (1 lecture)
60. Recent approaches in pharmacological treatment of breast cancer (pharmacology 8)
-61. Embryology of male and female reproductive systems (anatomy 10)
-Radiological Anatomy
29, Radiological anatomy of urinary tract (anatomy 11)
30, 31 Pelvis, perineum and relations ((anatomy 12 and 13)
9. Embryology of male and female reproductive systems (1 lecture)

-Sexually Transmitted Infections (STIs)
62, 63. Epidemiology of STIs (2 lectures)
64. Gonorrhea (Microbiology 4)
65. Trichomoniasis and ectoparasites (Microbiology 5)
66. Infections by chlamydia, gardnerella and ureaplasma (Microbiology 6)
67. Syphilis (Microbiology 7)
68. Herpes, cytomegalovirus, human (Microbiology 8)
69. Papilloma virus and moluscum contagiosum (Microbiology 9)
70. Recent updates on antiretroviral therapy (pharmacology 9)

ASSESSMENT RUBRICS

- ***Education will be integrated (on campus and e-learning) as follows:***

- Divide the students into four groups (A-1, A-2, B-1, B-2)

- The two groups (A-1, A-2) are taught on campus in the first day, while the lecture is uploaded recorded to the other two groups (B-1, B-2) and then exchanged between them in the following days until the end of the semester

- The ratio of on campus education to e-learning for each group is 50% to 50%

The Hashemite University – Faculty of Medicine
Genito-Urinary Module (0111501304)
7 Credit Hours – 6 Weeks from 23th Feb to 4th April 2024
Second Semester – 3rd Year Medicine
Venue: Faculty of Medicine Auditorium
Coordinator Dr. Hafez Almomani

	Day/Date	8.30 – 9.30	9.30–10.30	10.30-11.30	11.30-12.30	12.45-13.45	13.45-14.45	14.30-15.45
1st Week	Sun 23/2 مدرج الطب A		1 Anat	1 Physio	1 Path			
	Sun 23/2 مدرج العلوم الطبيه B			1 Anat	1 Physio	1 Path	Path L1 B	
	Online lecture C			1 Path	1 Anat	1 Physio		
	Mon 24/2 مدرج الطب C		2 Path	1 Micro	2 Anat			
	Mon 24/2 مدرج العلوم الطبيهB		2 Anat	2 Path	1 Micro			
	Online lecture A				2 Anat	1 Micro	2 Path	
	Tue 25/2 مدرج الطب A		3 Anat	2 Physio	2 Micro	3 Path	Path L1 C	
	Tue 25/2 مدرج العلوم الطبيه C		2 Physio	3 Anat	3 Path	2 Micro		
	Online lecture B			3 Path	2 Physio	3 Anat	2 Micro	
	Wed 26/2 مدرج الطب A		4 Path	3 Micro	4 Anat		Anat L 1 A (A1,A2,A3,A4)	
	Wed 26/2 مدرج العلوم الطبيه B		4 Anat	4 Path	3 Micro	Anat L 1 (B1,B2)		

	Online lecture C			4 Anat	4 Path	3 Micro	
	Thu 27/2 مدرج الطب C		3 Physio	4 Micro	1 Bio	Anat L 1C (C1,C2,C3,C4)	
	Thu 27/2 مدرج العلوم الطبيه B		1 Bio	3 Physio	Anat L 1 (B3,B4)	4 Micro	
	Online lecture A			4 Micro	1 Bio	3 Physio	

	Day/Date	8.30 – 9.30	9.30–10.30	10.30-11.30	11.30-12.30	12.45-13.45	13.45-14.45	14.30-15.45
2nd Week	Sun 2/3 مدرج الطب A		4 Physio	5 micro	5 Path		Anat L 2 A	
	Sun 2/3 مدرج العلوم الطبيه C		5 Path	4 Physio	5 micro	Cl. Skills Group C		
	Online lecture B		5 micro	5 Path	4 Physio			
	Mon 3/3 مدرج الطب A		5 Anat	6 Micro	6 Path	Path L 1 A		
	Mon 3/3 مدرج العلوم الطبيه B		6 Path	5 Anat	6 Micro	Anat L 2 B		
	Online lecture C			6 Path	5 Anat	6 Micro		
	Tue 4/3 مدرج الطب C		7 Path	6 Anat	5 Physio		Anat L 2 C	
	Tue 4/3 مدرج العلوم الطبيه B		5 Physio	7 Path	6 Anat	Cl. Skills Group B		
	Online lecture A				7 Path	6 Anat	5 Physio	
	Wed 5/3 مدرج الطب A		1 Pharma	7 Micro	7 Anat	8 Path		
	Wed 5/3 مدرج العلوم الطبيه C		7 Anat	1 Pharma	8 Path	7 Micro		
	Online lecture B			8 Path	1 Pharma	7 Anat	7 Micro	
	Thu 6/3 مدرج الطب A		8 Anat	6 Physio	8 Micro	2 Pharma		
	Thu 6/3 مدرج العلوم الطبيه B		6 Physio	8 Anat	2 Pharma	8 Micro		
	Online lecture C			2 Pharma	6 Physio	8 Anat	8 Micro	

	Day/Date	8.30 – 9.30	9.30–10.30	10.30-11.30	11.30-12.30	12.45-13.45	13.45-14.45	14.30-15.45
3rd Week	Sun 9/3 All student		1 Clinical	7 physio	9 Path	Cl. Skills Group A		
	Mon 10/3 مدرج الطب C		Anat L 3 C		10 Path	3 Pharma	2 Bio	
	Mon 10/3 مدرج العلوم الطبيه B		10 Path	3 Pharma	2 Bio	Anat L 3 B		
	Online lecture A		3 Pharma	10 Path		2 Bio		
	Tue 11/3 مدرج الطب A		8 Physio	11 Path	9 Anat	Cl. Skills Group A		
	Tue 11/3 مدرج العلوم الطبيه C		9 Anat	8 Physio	11 Path	Path L 2 C		
	Online lecture B				8 Physio	9 Anat	11 Path	
	Wed 12/3 مدرج الطب A		10 Anat	4 Pharma	12 Path	Anat L 3A		
	Wed 12/3 مدرج العلوم الطبيه B		12 Path	10 Anat	4 Pharma	Path L 2 B		
	Online lecture C					10 Anat	4 Pharma	12 Path
	Thu 13/3 مدرج الطب C		11 Anat	9 physio	5 Pharma	1 CM		
	Thu 13/3 مدرج العلوم الطبيه B		9 physio	1 CM	11 Anat	5 Pharma		
	Online lecture A		5 Pharma	11 Anat	9 physio	1 CM		

	Day/Date	8.30 – 9.30	9.30–10.30	10.30-11.30	11.30-12.30	12.45-13.45	13.45-14.45	14.30-15.45
4th Week	Sun 16/3 مدرج الطب A		10 Physio	13 Path	12 Anat	Path L 2 C		
	Sun 16/3 مدرج العلوم الطبيه C		12 Anat	10 Physio	13 Path	Cl. Skills Group C		
	Online lecture B		13 Path	12 Anat	10 Physio			
	Mon 17/3 مدرج الطب A		13 Anat	14 Path	6 Pharma	Anat L 4A		
	Mon 17/3 مدرج العلوم الطبيه B		6 Pharma	13 Anat	14 Path			
	Online lecture C		14 Path	6 Pharma	13 Anat			
	Tue 18/3 مدرج الطب C		11 Physio	2 CM	15 Path	Anat L 4C		
	Tue 18/3 مدرج العلوم الطبيه B		15 Path	11 Physio	2 CM	Cl. Skills Group B		
	Online lecture A		2 CM	11 Physio		15 Path		
	Wed 19/3 All student		1 Clinical	2 Clinical	16 Path	Anat L 4B		
	Thu 20/3 All student		3 Clinical	13 Physio	7 Pharma	Biochemistry lab		

	Day/Date	8.30 – 9.30	9.30–10.30	10.30-11.30	11.30-12.30	12.45-13.45
5th Week	Sun 23/3					
	Mon 24/3					
	Tue 25/3					
	Wed 26/3					
	Thu 27/3	midterm and Practical exam				

	Day/Date	8.30 – 9.30	9.30–10.30	10.30-11.30	11.30-12.30	12.30-13.30	13.30-14.30	14.30-16.0
6th Week	Sun 30/3							
	Mon 31/3							
	Tue 1/4							
	Wed 2/4							
	Thu 3/4							
	Sun 4/4	Final exam						

Subject	lectures	Lab	
Anatomy	13	4	Dr Amani
Pathology	16	3	Dr Ghada
Physiology	13		Dr Iman
Pharmacology	7		Dr Ola
Microbiology	8		Dr Hafez
Community medicine	2		Dr iman
Biochemistry	2	1	Dr Ahmed
Clinical medicine	3		
Total	64	8	

Subject	Total # of lectures	Total # of Q	# of lecture in midterm exam	# of MCQs in Midterm exam	# of MCQs in final exam
Anatomy	13	29	8	17	12
Pathology	16	35	8	15	20
Physiology	13	29	8	17	12
Pharmacology	7	15	4	8	7
Microbiology	8	16	5	9	7
Community medicine	2	5	1	2	3

Biochemistry	2	5	1	2	3
Clinical medicine	3	6	0	0	6
Total	64	140	34	70	70

ANATOMY

1. General topographic anatomy of the urinary system (1 lecture)
2. Histology of the kidney (1 lecture)
1. Gross anatomy and histology of the ureter, urinary bladder and urethra (1 lecture)
2. Gross anatomy of the urinary system, blood vessels, lymphatic drainage and innervation (2 lecture)
3. Embryology of urinary system (1 lecture)
4. Pelvis, perineum and relations (2 lectures)
5. Anatomical components of the female reproductive system (1 lecture)
6. Histology of the female reproductive system (1 lecture)
7. Anatomical components of the male reproductive system (1 lecture)
8. Histology of the male reproductive system (1 lecture)
9. Embryology of male and female reproductive systems (1 lecture)

TOTAL: 13 lectures

PHYSIOLOGY

1. Renal hemodynamics and glomerular filtration (2 lecture)
2. Renal clearance (1 lecture)
3. Tubular functions: Reabsorption and secretion. (2 lecture)
4. Concentration and dilution of urine (1 lecture)
5. Renal acid-base balance regulation (1 lecture)
6. Female reproductive physiology (2 lecture)
7. Gestational physiology and maternal changes in pregnancy (2 lectures)
8. Male reproductive physiology (2 lecture)

TOTAL: 13 lectures

PATHOLOGY

1. Glomerular diseases (1 lectures)
2. Glomerular diseases (1 lectures)
3. Vascular diseases of the kidney (1 lecture)
4. Cystic diseases of the kidney, nephrolithiasis and hydronephrosis (1 lecture)
5. Renal cell and bladder carcinoma (1 lecture)
6. The female genital system diseases of the vulva, vagina, & cervix (1 lecture)
7. Carcinoma of the cervix (1 lecture)
8. Diseases of the uterus (1 lecture)
9. Tumors of the ovary (1 lecture)
10. Diseases of pregnancy (1 lectures)

11. Diseases of the breast (1 lectures)
12. Breast cancer (1 lectures)
13. Diseases of the penis, testis and epididymis (1 lecture)
14. Diseases of the prostate (1 lecture)

TOTAL: 14 Lectures

MICROBIOLOGY

1. Upper urinary tract infections (1 lecture)
2. Lower urinary tract infections (1 lecture)
3. Candidiasis (1 lecture)
4. Gonorrhea (1 lectures)
5. Trichomoniasis and ectoparasites (1 lectures)
6. Infections by chlamydia, gardnerella and ureaplasma (1 lectures)
7. Syphilis (1 lectures)
8. Viral sexual transmitted infection (1 lectures)

TOTAL: 8 Lectures

PHARMACOLOGY

1. Diuretics (1 lectures)
2. Treatment of urinary tract infections (1 lecture)
3. Female sex steroids and contraceptive agents (1 lecture)
4. Uterine acting drugs (1 lecture)
5. Recent approaches in pharmacological treatment of breast cancer (1 lecture)
6. Androgen therapy (1 lecture)
7. Recent updates on antiretroviral therapy (1 lectures)

TOTAL: 7 Lectures

EPIDEMIOLOGY

1. Epidemiology of STIs (2 lectures)

TOTAL: 2 Lectures

Biochemistry

1. Urea and creatinine metabolism/ regulation of hydrogen ions and bicarbonate buffer system
2. Normal and abnormal composition of urine

TOTAL: 2 Lectures

Total Number of lecture :65

#	Lecture Title	Lecture Objectives
1	**Anatomy 01** **Anatomy & Histology of kidneys**	**1. Describe the shape, function, location, fascial sheaths, gross feature, and relations of kidneys.** **2. Understand the gross structure of a sagittal section of kidney.** **3. Discuss the blood & nerve supply, and lymphatic drainage of kidneys.** **4. Describe the microscopic appearance of kidneys.**
2	**Anatomy 02** **Anatomy and Histology of ureters, Urinary bladder, and urethra**	**1. Understand the extension, relations, blood &nerve supply, and lymphatic drainage of ureters.** **2. Outline the three constrictions of the ureters.** **3. Describe the shape, location, surfaces, relations, blood & nerve supply, and lymphatic drainage of urinary bladder.** **4. Understand the Intraperitoneal and extraperitoneal rupture of urinary bladder.** **5. Describe the gross anatomy of male and female urethra.** **6. Describe the histology of the ureter, urinary bladder and urethra.**
3	**Anatomy 03** **Embryology of Urinary System**	**1. Understand the normal development of kidneys, ureters, urinary bladder, and urethra.** **2. Understand congenital anomalies of the urinary system**
4	**Anatomy 04** **Radiology of urinary system and pelvis**	**1. Understand the standard anteroposterior radiograph, intravenous and retrograde pyelography.** **2. Describe the sex differences of the pelvis.** **3. Describe the pelvic inlet and outlet.** **4. Understand the greater and lesser pelvis.** **5. Describe the muscles of the lesser pelvis.**
5	**Anatomy 05** **Anatomy of perineum**	**1. Understand the gross anatomy of perineum.** **2. Describe the urogenital and anal triangle.** **3. Understand the urogenital diaphragm, superficial & deep perineal pouches and their contents in both sexes.**
6	**Anatomy 06** **Anatomy of the male reproductive system**	**1. Describe the gross anatomy of scrotum, testes, intratesticular ducts, excretory genital ducts, penis, and genital glands (prostate, seminal vesicles and bulbourethral glands).** **2. Study the spermatic cord, its covering sheaths, and its contents.**

7	**Anatomy 07** **Histology of the male reproductive system**	**1. Describe the microscopic appearance of male sexual organs and glands.** **2. Understand the processes of spermatogenesis and spermiogenesis.**
8	**Anatomy 08** **Anatomy of the female reproductive system (1)**	**1. Understand the anatomy of the breast, blood & nerve supply, and lymphatic drainage.** **2. Discuss the location, shape, relations, blood & nerve supply, and lymphatic drainage of ovary.** **1. 3. Describe the anatomy of uterine tube.**
9	**Anatomy 09** **Anatomy of the female reproductive system (2)**	**1. Describe the anatomy of uterus, location, parts, relations, blood & nerve supply, and lymphatic drainage.** **2. Understand the true (fibrous) ligaments supporting the uterus in its position.** **3. Discuss the broad and round ligaments.** **4. Understand the normal (antiversion and antiflextion) &abnormal position of uterus.** **5. Describe the anatomy of vagina, relations, blood & nerve supply, and lymphatic drainage.** **6. Describe anatomy of female external genitalia &** **7. genital glands (greater & lesser vestibular glands, and paraurethral gland).**
10	**Anatomy 10** **Histology of the female reproductive system (1)**	**1. Describe histology of female breast.** **2. Describe the microscopic appearance of ovary and uterine tube.** **3. Understand the histological changes in the ovary during ovarian cycle.**
11	**Anatomy 11** **Histology of the female reproductive system (2)**	**1. Describe the microscopic appearance of uterus.** **2. Understand the histological changes in uterus during uterine cycle.** **3. Describe the histology of vagina.** **4. Discuss the anatomy and histology of female genital glands (greater & lesser vestibular glands, and paraurethral gland).** **5. Histology of female external genitalia.**
12	**Anatomy 12** **Embryology of the reproductive system (1)**	**1. Understand the development of indifferent gonads.** **2. Describe the development of testes.** **3. Describe the development of ovaries.** **4. Describe the development of male genital ducts.** **5. Describe the development of male genital glands.**
13	**Anatomy 13** **Embryology of the reproductive system (1)**	**1. Describe the development of female genital ducts.** **2. Describe the development of female genital glands.** **3. Describe the development of male and female external genital organs.**

14	**Pharmacology 1** **Diuretics1**	-Give a definition of diuretics -List major types of diuretics and describe the basic sites of diuretic action in the nephr. - Describe the actions of thiazide & loop diuretics, examples, uses and adverse effects. - Enumerate the risk factors associated with diuretics and potassium loss.
15	**Pharmacology 2** **Diuretics2**	- Describe the drugs that reduce potassium loss during diuresis (spironolactone, triamterene, amiloride) . - Provide examples of potassium supplements. -Describe a therapy that will reduce calcium excretion in patients who have recurrent urinary stones. - Discuss the principle of force diuresis. - Determine the drugs for reducing urine volume in nephrogenic diabetes insipidus.
16	**Pharmacology 3** **Treatment of urinary tract infection**	- Identify general measures taken in UTI. - List major classes of chemotherapeutic agents used for treatment of UTI. -. Describe the mechanism of action, major pharmacokinetic properties and toxic effects of chemotherapeutic agents used in UTI. - Enumerate urinary antiseptics,discuss their role in treatment of UTI.
17	**Pharmacology 4** **Andrology therapy**	- Discuss biochemical synthesis of male sex hormones. - Explain action, uses,side effects and contraindications of androgens. -Describe uses and contraindications of anabolic steroids -list therapeutic uses and preparations of antiandrogens.
18	**Pharmacology 5** **Female sex steroids**	-Classify female sex hormones to agonist, anagonist and mention their receptors -Discuss physiological action, uses, side effects of estrogen. -Explain mechanism of action and uses of antiestrogens. Discuss physiological action, uses, side effects of progesterone. -Describe mechanism of action progesterone antagonist. - List uses of progesterone antagonist.
19	**Pharmacology 6** **Cotraceptive agents**	-Classify contraceptives.- -Explain mechanism of action hormonal cotraceptives. - List advantages,disadvantages,uses, contraindications and drug interaction of hormonal contraceptives.
20	**Pharmacology 7** **Urerine acting drugs**	-Enumerate drugs (stimulants and relaxants) of the uterus and their therapeutic uses and adverse effects. -Describe the pharmacological basis of using drugs for termination of labour, or induction of delivery. -Illustrate the potential use of drugs for management of premature delivery.

21	**Congenital and cystic diseases of the kidney. (Pathology 1)**	1. Define the main congenital diseases of the kidney. 2. Understand different types, pathogenesis, morphology, and presentation of cystic diseases of the kidney.
22	**Glomerulonephritis. (Pathology 2)**	1. Discuss the pathogenesis of glomerulonephritis. 2. Recognize the basic reactions of glomerulous to injury. 3. List the different renal syndromes associated with renal Pathology.
23	**Nephritic syndrome. (Pathology 3)**	1. Discuss the manifestations and mechanism of nephritic syndrome. 2. List the types of glomerulonephritis associated with nephritic syndrome. 3. Discuss the etiology, pathogenesis, morphology and clinical features of the common types of glomerulonephritis leading to nephritic syndrome.
24	**Nephrotic syndrome. (Pathology 4)**	1. List the components of nephrotic syndrome. 2. Discuss the pathogenesis of nephrotic syndrome. 3. List the main causes of nephrotic syndrome. 4. Discuss the etiology, morphology, pathogenesis and clinical features of the common types of glomerulonephritis leading to nephrotic syndrome.
25	**Glomerular pathology in systemic disease. (Pathology 5)**	1. Discuss the glomerular lesions associated with - Diabetes mellitus. - Systemic lupus erythematosis. - Henoch-shonlein purpura. - Multiple myeloma. - Gout. - Endocarditis.
26	**Diseases of blood vessels; renal failure. (Pathology 6)**	1. Define causes, pathogenesis, pathology and presentation of renal diseases of blood vessels. 1. Contrast acute and chronic renal failure with the emphasis on pathogenesis, causes, morphology and clinical course
27	**Tubulointerstitial nephritis; urinary tract infection. (Pathology 7)**	1. Define the features and general morphology of tubulointerstitial nephritis. 2. Define the pathogenesis, morphology and clinical features of drug induced tubulointerstitial nephritis. 3. Define the morphology and clinical features of acute and chronic pyelonephritis.

		4. Define the morphology and clinical features of obstructive uropathy and the common sites of ureteric obstruction. 5. Discuss the pathogenesis, clinical features and types of urinary stones. 6. Discuss the predisposing factors, causes and pathology of cystitis.
28	**Renal tumors; pathology of ureter and urinary bladder. (Pathology 8)**	1. Discuss the main features of angiomyolipoma and oncocytoma (benign renal neoplasms) 2. Discuss the risk factors, morphology and clinical features of renal cell carcinoma (RCC). 3. List the main features of urothelial carcinoma of the renal pelvis 4. Discuss the risk factors, morphology and clinical features of nephroblastoma. 5. Describe the pathology of bladder cancer including; epidemiology, types, grading, staging and prognosis.
29	**Disease of the penis, scrotum and testis. (Pathology 9)**	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.
30	**Diseases of the prostate. (Pathology 10)**	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. Recognize the incidence, hormonal effects, pathology, clinical, pathways of spread, staging, and tumor markers of prostatic carcinoma.
31	**Disease of the vulva and vagina. (Pathology 11)**	1. Recognize the histopathology and clinical significance of Lichen sclerosis, squamous hyperplasia, vulvar dystrophy, leukoplakia, extramammary Paget's disease, condyloma acuminate, 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.

32	**Introductory case presentation for the urinary part of the system (Multidisciplinary)**	1. Understand the general outline of the urinary system. 2. Be familiar with the modalities of teaching throughout the course. 3. Acknowledge the important relation between normal and abnormal structure and function. 4. Appreciate the importance of basic sciences in clinical application.
33	**Diseases of the cervix. (Pathology 12)**	1. Describe the histopathologic changes, age incidence and risk factors for cervical intraepithelial neoplasia and its association with human papilloma virus. 2. Discuss the age incidence, predisposing factros, pathologic characteristics and sites of metastases for squamous cell carcinoma of the cervix.
34	**Diseases of the breast-I. (Pathology 13)**	1. Understand the diagnostic approach to palpable and non-palpable breast lesions. 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. 3. List breast cancer risk factors.
35	**Diseases of the breast-II. (Pathology 14)**	1. Describe the major types of breast cancer including, insitu, invasive ductal, lobular, medullary, mucinous and tubular carcinomas. 2. List the important factors in assessing the prognosis of breast cancer. 3. Understand the role of estrogen and progesterone receptors in the management of breast cancer.
36	**Disease of the uterus. (Pathology 15)**	1. Distinguish between endometriosis, adenomyosis and endosalpingiosis by clinical, pathological features and natural history. 2. Distinguish between the different types of endometrial hyperplasia by histological appearance, clinical and natural history. 3. Understand the age incidence, and pathologic findings, of leiomyoma and leiomyosarcoma of uterus. 4. Identify age incidence, predisposing factors, hormonal influence, pathologic characteristics and sites of metastases for endometrial carcinoma.
37	**Diseases of the ovaries and fallopian tubes. (Pathology 16)**	1. Classify ovarian tumors with the emphasis on serous, mucinous, endometrioid carcinoma, epighelial tumors and germ cell tumors of the ovary.

		2. Describe the age incidence, predisposing factors, pathological characteristics, sites of metastases for epithelial tumors and germ cell tumors of the ovary.
38	**Gestational disease. (Pathology 17)**	1. Describe age incidence, predisposing factors, natural history and pathological characteristics for complete and partial hydatidiform mole, invasive mole and gestational choriocarcinoma.
40	**Special aspects of renal metabolism. Role of kidney in acid base balance. (Biochemistry 1+2)**	1. Discuss urea and creatinine metabolism/ cycle. 2. Understand the basic principles on the role of kidney in the regulation of hydrogen ions and bicarbonate buffer system to understand abnormalities in urine composition. 3. Discuss amino acids absorption by the kidney and their disorders 4. Discuss normal and abnormal composition of urine 5. Interpret the results of routine urine analysis
43	**Glomerular filtration (GF). (Physiology 1)**	1. Review the functions of the nephron. 2. Understand the process of renal blood flow and glomerular filtration. 3. Understand the glomerular membrane, and the dynamics of glomerular filtration. 4. List the factors that affect glomerular filtration rate (GFR).
44	**Reabsorption and secretion. (Physiology 2)**	1. Understand the transport and the pathways of reabsorption. 2. Discuss the reabsorption of water and electrolytes. 3. Discuss the reabsorption of glucose, urea, creatinine and protein.
45	**Regulation of the GF and renal-blood flow (RBF). (Physiology 3)**	1. Understand the autoregulation and tubuloglomerular feedback. 2. Understand the juxtoglomerular apparatus and its role in renin-angiotensin system. 3. Understand the glomerulotubular balance.
46	**Parameter of renal active transport. (Physiology 4)**	1. Discuss the renal tubular transport maximum (Tm). 2. Define the filtered load and excretion. 3. Understand the glucose and para-aminohippuric acid (PAH) titration curve.
47	**Renal clearance. (Physiology 5)**	1. Understand the mechanisms of renal clearance and its applications. 2. Describe the inulin, creatinine and PAH clearance.

48	**Renal concentration and dilution of urine. (Physiology 6)**	1. Understand the mechanisms of dilution and concentration - Counter current multipliers. - Counter current exchangers. 2. Discuss the role of urea.
49	**Hormonal regulation of sex determination. (Physiology 7)**	1. Discuss the role of various hormones and factors involved in sex differentiation.
50	**Male reproductive physiology. (Physiology 8)**	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.
51	**Erection. (Physiology 9)**	1. Discuss the mechanism and disorders of the erection process.
52	**Female reproductive physiology-I. (Physiology 10)**	1. 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.
53	**Female reproductive physiology-II. (Physiology 11)**	1. Describe the normal sequence of events of puberty in the female. 2. Discuss the structural changes that occur in the endometrium during the menstrual cycle and explain how these changes are hormonally controlled. 3. Describe the physiology of the menopause. 4. Describe the disorders of reproductive function.
54	**Physiology of pregnancy. (Physiology 12)**	1. Describe, fertilization, transport and implantation of the developing ovum. 2. Describe the function of placenta. 3. Describe the response of the mother's body to pregnancy. 4. Describe and discuss fetal circulation.
55	**Parturition and lactation. (Physiology 13)**	1. Discuss the factors currently thought to be involved in the initiation of parturition. 2. Discuss the hormonal requirements for mammary gland development and establishment of lactation. 3. Describe the milk composition.
56	**Urinary tract infection (UTI). (Microbiology 1)**	2. Understand the role of *E.coli* and other gram negative bacteria as well as gram positive organisms in UTI,

		their laboratory diagnosis and susceptability to antibiotics.
57	**Schistosomiasis. (Microbiology 2)**	1. Describe *Schistosoma Hematobium*, its pathogenesis, immune response, epidemiology, life cycle and clinical manifestations. 2. Describe the laboratory diagnosis,treatment, prevention and control measures.
58	**Gonorrhoea. (Microbiology 3)**	1. Understand the role of *Neisseria gonorrhoea* as the commonest cause of sexually transmitted diseases. 2. Describe the laboratory diagnosis, pathogenesis, susceptibility to antibiotics and epidemiology of *N.gononrrhoea.*
59	**Trichomoniasis & Ectoparasites. (Microbiology 4)**	1. Describe *Trichmonas vaginalis* and other ectoparasites transmitted by sexual means, their morphology, structural features and life cycle. 2. Briefly describe clinical presentations and drugs used for treatment.
60	**Infections by *Chlamydia,Gardnerella,* and*Ureaplasma.* (Microbiology 5).**	1. Describe the differences in structure, morphology and replication of these organisms from other bacteria or viruses. 2. Describe the pathogenesis stressing the role of virulence factors and their implication on the clinical picture. 3. Describe laboratory diagnosis and rationale behind treatment.
61	**Syphilis. (Microbiology 6)**	1. Describe the morphology of *Treponema pallidum,* pathogenesis and laboratory diagnosis of the disease. 2. Describe the various stages of the disease and appropriate treatment as well as preventive measures.
62	**HIV and AIDS. (Microbiology 7)**	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. 2. Describe the laboratory measures for screening, confirmation and follow up of treatment. 3. Highlight the treatment regimens and preventive measures.
63	**Herpes, Cytomegalo Virus, Human Papilloma Virus and Moluscum contagiosum. (Microbiology 8)**	1. Describe the structure, morphology , replication cycle and serotypes of each virus as well as epidemiology of the diseases they cause. 2. Describe the pathogenesis and role of these viruses in cervical cancer.

		3. Describe the cell culture and serology for identification and highlight role of antiviral drugs in treatment.
64	**Infections of urinary and reproductive system. (Public Health 1)**	1. Idetify the risk factors for urinary and reproductive system infections and disease.
65	**Community awareness (Public Health 2)**	1. Describe methods to promote community awareness regarding methods of transmission of sexual transmitted diseases and preventive measures ..
66	**Introductory case presentation for the reproductive part of the system. (Multidisciplinary)**	1. Understand the general outline of the reproductive system. 2. Be familiar with the modalities of teaching throughout the course. 3. Acknowledge the important relation between normal and abnormal structure and function. 4. Appreciate the importance of basic sciences in clinical application.
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A. Practical Laboratory Sessions

Lab #	Lab. Title	Objectives
1	Gross anatomy of the urinary system. **(Anatomy 1)**	1. Define different parts of the urinary system in the abdomen and pelvis. 2. Localize the kidney within posterior abdominal compartment, and its relation to the surrounding organs. 3. Trace the ureter from the pelvis of the kidney until the urinary bladder. 4. Define the urinary bladder and apply knowledge about its elations in the pelvic cavity both in males and females. 5. Compare the urethra in both sexes. 6. Identify all parts of the urinary system in normal conditions on plain X-rays and IVP. 7. Identify major congenital anomalies affecting this system by imaging techniques.
2	Histology. **(Anatomy 2)**	1. Identify the microscopical appearance of the: - Nephron and its parts. - Renal medulla. - Ureter. - Urinary bladder. - Urethra.
3	Glomerular pathology. **(Pathology 1)**	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 & glass slides from your slide box).
4	Non-neoplastic diseases of the kidney. Neoplasms of kidney and urothelial tumors. **(Pathology 2)**	1. Identify the congenital and cystic diseases of the kidney grossly. 2. Examine kidneys with pyelonephritis grossly and microscopically. 3. Examine kidneys with hydronephrosis, lithiasis and tuberculosis grossly; (for this class use Webpath, glass slides and gross specimens in the museum) 4. Examine the gross and histological slides of renal cell carcinoma and nephroblastoma (Wilms tumor). 5. Examine urinary bladder cancer grossly and histologically; (for this class use the Webpath, glass slides and gross Specimens).
5	Pelvis I. **(Anatomy 3)**	Describe the following: 1. Bony pelvis. 2. Pelvis muscles. 3. Pelvic peritoneum. 4. Urogenital triangle in males. 5. anatomy of Male&femalgenital organs.
6	Pelvis II. **(Anatomy 4)**	1. Microscopic appearance of Male internal & external genital structures.

		2. Microscopic appearance of Male internal & external genital structures
7	Male and Femal reproductive system. **(Pathology 3)**	1. Identify the gross and histological features of: - Benign prostatic hyperplasia. - Carcinoma of the prostate. - Carcinoma of the penis. - Testicular tumors. 2. Identify the gross appearance of hydrocele and torsion of testis. 3. Identify the histological features of testicular atrophy associated with infertility cases. 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.
8	Urine analysis **(Biochemistry 1)**	1. Perform a urine dipstick independently 2. Identify normal and abnormal microscopic urine samples, as viewed on a microscope 3. Correctly interpret a routine urine dipstick/ analysis result and/or microscopic examination of a urine sample to reach a presumptive diagnosis