# Course Description Template

**University Name**: Warith Al-Anbiya.
**Faculty/Institute**: Collage of medicine
**Scientific Department**: medical education
**Academic or Professional Program Name**: unit 8 / 3rd stage
**Final Certificate Name**: .....
**Academic System**: Integration System
**Description Preparation Date**: 27/8/2025
**File Completion Date**: 27/8/2025

**Signature**:
**Head of Branch**: Dr. Fatima M. Swadi
**Date**: 27/8/2025

**Signature**:
**Vice Dean for Scientific Affairs**: Dr. Laith M. Abbas
**Date**: 27/8/2025

**The file is checked by**:
**Department of Quality Assurance and University Performance**
**Director of the Quality Assurance and University Performance Department**: professor Dr. Ali Al Mousawi
**Date**: 27.8.2025

**Signature**:

**Dean's approval**

## Unit eight (genitourinary) Code : medu302

### 1. Anatomy

| | ANATOMY | HISTOLOGY | EMBRYOLOGY | hr |
|---|---|---|---|---|
| | **WK1** | | | |
| | kidney & abdominal part of ureter | Kidney & ureter | | 2+2 |
| lab | **histology (Kidney & ureter)** | | | 2 |
| | **WK2** | | | |
| | Urinary bladder &pelvic ureter | Urinary bladder | | 2+2 |
| lab | **Anatomy of urinary system** | | | 2 |
| | **WK3** | | | |
| | Prostate & urethra | Prostate & urethra | | 2+2 |
| lab | **Histology(Urinary bladder, prostate & urethra)** | | | 2 |
| | **WK4** | | | |
| | | | Embryology of UT& congenital anomalies | 2 |
| | **WK5** | | | |
| | anatomy of the female genital system | Histology of the female genital system | | 2+2 |
| lab | **Histology of the female genital system** | | | 2 |
| | **WK6** | | | |
| | anatomy of the male genital system | Histology of the male genital system | | 2+2 |
| | | | Embryology of GT | 2 |
| lab | **Histology of the female genital system** | | | 2 |
| | | | | |
| | **WK7** | | | |
| | perineum | | Embryological basis of congenital diseases | 2+2 |
| lab | **Anatomy of genital tract & perineum** | | | 2 |
| | **WK8** | | | |
| | Morphological anatomy of mammary gland | Histology of mammary gland | | 4 |
| lab | **Histology of mammary gland** | | | 2 |
| نظري | **14** | **12** | **4** | **28** |
| عملي | **4** | **10** | | **14** |

### 2. Physiology

| week | Objectives/Theory | hours | Objective/ practical | hours |
|---|---|---|---|---|
| one | Renal hemodynamics; renal blood flow and glomerular :function<br>Describe the functional unit of the kidney – (Nephron)<br>Distinguish between cortical and juxta-medullary – .nephrons<br>Describe the location, structure and function of – .juxtaglomerular apparatus<br>Describe the filtration membrane's structure and – .function<br>Describe features of the endothelial capsular – .membrane that allow it to act as a filter<br>List and name forces that – contribute to net filtration pressure and explain How .NFP is calculated<br>.Define glomerular filtration rate –<br>Describe the intrinsic and extrinsic mechanisms – that regulate glomerular filtration rate and renal blood flow<br>Define the filtration coefficient and how it may – .affect the glomerular filtration rate<br>Describe different signs and symptoms resulting – from disruption of physiological function of .glomerular filtration membrane<br>Renal transport mechanisms<br>Tubular processes overview –<br>Tubular reabsorption processes of water, sodium, – potassium, chloride, glucose, amino acids<br>Tubular secretion -endogenous substances, some – +drugs, H<br>Describe the tubular maximum mechanism. – –<br>Identify factors affecting glomerular reabsorption of .glucose | 4 | | |
| two | Tubular function:<br>1. Describe the permeability and ion transport<br>2. characteristics of each segment of the nephron.<br>3. Describe the action and site of action of aldosterone.<br>4. Describe the site of secretion of K+.<br>5. Describe the function of the principal cells.<br>6. Describe the function of the intercalated cells.<br>Regulation of effective circulating volume<br>–Describe the water permeability | 3 | | |

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| | characterstics of the loops of Henle, distal convoluted tubule and cortical and medullary collecting ducts.<br>–Describe the mechanism of Countercurrent multiplion and the generation of medullary interstitial hyper osmolarity.<br>–Describe the unction of the vasa recta as a countercurrent exchanger in the development and maintenance of the renal corticomedullary osmolar concentration gradient .Describe the role of ADH. | | | |
| three | Mechanism of micturition<br>–Describe the nervous control of Bladder function .<br>–Describe changes in intravesical Pressure during filling and voiding.<br>–Describe the micturition reflex.<br>–Describe the physiological factors that influence micturition.<br>–Outline the main disorders of Bladder function. | 1 | | |
| Four | ; Effect or urinary obstruction of renal function<br>–Describe the function of the prostate<br>–Describe the effect of enlarged prostate on renal function and bladder function | 1 | | |

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| five | 1. Describe the structural arrangement that subserves the reproductive function of the testis.<br>2. Describe the physiology of spermatogenesis and its hormonal regulation.<br>3. Explain how the Pampiniform plexus of veins acts as as counter current heat exchanger<br>4. Describe the pathway taken by a sperm cell from its formation site to its ejaculation.<br>5. Explain the pattern of secretion and metabolism of testosterone.<br>6. Describe function of testosterone during fetal development.<br>7. Identify the various actions of androgenic hormones.<br>8. Describe role of testosterone in erection, emission and ejaculation | 2 | | |
| six | Female! Menstrual! Cycle | 2 | | |
| total | | 13 | | |

## 3. Pathology

| *weeks* | *Objectives/theory* | *Number of hours* | *Objectives/ practical* | *Number of hours* |
|---|---|---|---|---|
| *Week 1* | - Classify the different types of glomerular diseases and outline the different mechanisms of glomerular injury.<br>– Differentiate between the clinical manifestations of Nephritic/Nephrotic syndrome. And outline the | *2* | *different types of glomerular diseases* | *2* |

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| | Pathophysiologic mechanisms underlying each<br>– List the causes of Nephrotic syndrome (Primary glomerular /systemic diseases) and describe the etiology, therenal morphology, pathogenesis and clinical course in each condition | | | |
| *Week 2* | - List clinical manifestations and laboratory investigations of renal failure.<br>– Describe the pathology of drug induced interstitial Nephritis<br>– Outline the pathogenesis, morphologic features and clinical picture of Acute tubular injury (ATI)<br>-List the causes of obstructive uropathy and outline its Consequences on the kidney (Hydronephrosis) | *1* | | |
| *Week 3* | – Discuss the pathology of urothelial tumors (of the urinary bladder and ureters)<br>– Outline the different causes of hematuria | *2* | *Urinary bladder disease* | *2* |
| *Week 4* | – Outline the etiology of Nodular prostatic hyperplasia<br>– Describe the gross and microscopic morphology of Nodular prostatic hyperplasia and outline its clinical Picture<br>– Discuss the pathogenesis, morphology and clinical features of prostatic adenocarcinoma<br>– Discuss the Dynamic role of PSA as a tumor marker for Prostatic adenocarcinoma | *1* | | |
| *Week 5* | 1- Causes of infertility in testes<br>2- Cryptorchidism (atrophy)<br>3- Inflammations<br>4- Vascular disturbances<br>5- Testicular neoplasms<br>6- Penis, STDs | *2* | | |

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| *Week 6* | 1- Causes of infertility in ovaries<br>2- Ovarian cysts and ovarian tumors<br>3- HPV infection, pap smear, cervical dysplasia (Bethesda System), cervical cancer<br>4- Pathology of vulva, vagina, uterus, fallopian tubes, placenta, benign and malignant neoplasms<br>5- Breast lump and benign versus malignant neoplasms, gynecomastia | *3* | *Disaeses of female reproductive system* | *2* |
| *Week 7* | 1. Breast diseases, congenital anomalies,<br>2. Fibrocystic diseases<br>3. benign neoplasms, gynecomastia<br>4. Pre-operative diagnosis<br>5. Molecular classification and grading of breast tumors<br>6. Histological types of breast cancer<br>7. Delineate the variables that influence the prognosis of breast cancer | *3* | *Diseases of breast* | *2* |
| *Total hours* | | | | |

## 4. Pharmacology

## Renal Systems

| Weeks | Objectives | Theory/hr |
|---|---|---|
| 1 | - | - |
| 2 | **Pharmacology of Diuretics:**<br>**Classes of diuretics,**<br>**Mechanism and site of action.**<br>**Clinical application, Adverse reactions of diuretics and Interaction with other drug classes.** | 1 |
| 3 | **Chemotherapy of bladder cancer**<br>**– Selection of the treatment modality according to the nature of the lesion**<br>**– Effects and side effects of intra-vesical therapies**<br>**– Actions, indications, side effects and contraindications of agents used in management of bladder cancer** | 1 |

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| 4 | Pharmacotherapy of prostatic disorders<br>– Drugs used to control symptoms of benign prostatic hyperplasia (BPH)<br>– Hormonal therapy of prostatic carcinoma (Androgen deprivation therapy)<br>– Non hormonal therapy of prostatic carcinoma | 2 |
| | The role of the kidney in pharmacokinetics:<br>– Understand the mechanism of renal excretion of drugs and their metabolites and the problems in drug handling that can occur if renal function is impaired | |
| Total hours | | 4 |
| Credits | | 0.26 |

reproductive system

| Weeks | Objectives | Theory/hr |
|---|---|---|
| 5 | Pharmacotherapy of male infertility:<br>1. describe different classes of drugs used for management of male infertility<br>2. choose the optimum therapy for male infertility according to the cause<br>3. discuss the pharmacology of drugs used for male infertility<br><br>Pharmacology of female infertility:<br>1. controlled secretion of gonadotropins and its pharmacologicalmodulations<br>2. GnRH agonists and antagonists: available agwnts , their sources and clinical applications | 1 |
| 6 | Hormonal contraception<br>1. Common indications and contraindications<br>2. Benefits versus risks<br>3. Mechanisms of actions and formulations available<br>4. Interactions with other drugs<br>Different pharmaceutical forms | 1 |
| 7 | Chemotherapy of breast cancer | 2 |

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| 8<br>Renal<br>And<br>Reproductive | 1<br>Nephrotic<br>syndrome | Immunity | Autoimmune basis of nephrotic syndrome<br>1. Recall the immune basis of nephrotic syndrome.<br>2. Explain the regulation of the complement cascade.<br>3. Explain the different mechanism and types of immune mediated nephropathies. | 1hr. |
| | 2 | Microbiology | 1.Epidemiology,etiology and pathogenesis of community-acquired and hospital acquired UTIs<br>2. Virulence factors in the causative organisms<br>3. Clinical predictors of Recurrent UTIs in women | 1hr. |
| | | Immunity | Urethral and bladder defenses<br>.1Recognize innate immune response of lower urinary tract against infection***.<br>.2Recognize adaptive immune response of lower urinary tract against infection***. | 1hr. |
| | | Microbiology Lab. | Microbiological investigation of urinary tract infection<br>1. Identify the different methods of obtaining urine for microbiological investigation. | 6 hr. (2hr/3 groups) |

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| | | | 2. Understand how to collect a midstream urine specimen.<br>3. Understand the different microbiological procedures carried out urine specimens.<br>4. Know how to interpret urine culture report.<br>5. Understand the microbiological culture work up for investigation of chronic urogenital infections in men. | |
| | 3 | Parasitology | Schistosomiasis<br>1. Classify common helminthes.<br>2. Identify the different Schistosoma<br>As trematodes (tissue flukes) of clinical importance and describe the types of infections they cause.<br>3. Describe the epidemiology and transmission of Schistosoma spp.<br>4. Describe the pathogenesis and clinical manifestations of Schistosoma infection.<br>5. Describe the diagnosis management and prevention of Schistosoma infection. | 1 hr. |
| | | | Immune response of parasites | |

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| | | Immunology | 1. Role of T and B in cells in helminthes infection.<br>2. Effector cells in protozoal infections.<br>3. Cytokines and secreted cytotoxic molecules in helminth infection.<br>4. Immune pathological con-sequences of parasitic infections: hepatosplenomegaly and auto –immunity. | 1 hr. |
| **8**<br>Renal<br><br>And<br><br>Reproductive | 5 | Immunology | Immune privilege organs<br>1. List immune privilege organs.<br>2. Describe the mechanisms in active and passive immune privilege.<br>3. Recall that sperms are antigenic.<br>4. Enumerate mechanisms by which sperm antigens gain access to immune system.<br>5. Describe the role of immune system in induction of infertility.<br>6. Recall the use of immunological methods in identification of infertility. | 1 hr. |
| | 5 | Microbiology | An introduction to sexually transmitted infections<br>1.A broad understanding of the spectrum sexually transmitted microbiota and infections(STI) | 1hr. |

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| | | | 2. Have a good knowledge of two STI which contribute significantly to tubal factor infertility (Gonococcal and genital Chlamydia infections)<br>3. Understand the female urogenital Microbiota and how imbalance can results in bacterial vaginosis.<br>4. Acquisition and transmission of SDI. | |
| | 6 | Microbiology | Human Papilloma virus<br>1. Types of HPV, and the association of high-risk types and Ca cervix.<br>2. Understanding the mode of transmission and risk factors for HPV.<br>3. HPV and cervical cancer.<br>4.Diagnosis<br>5. prevention - Vaccine | 1hr. |
| | 7 | Genetics | Genes involved in breast cancer and mutation screening | 1 hr |