

<b>Course Code</b> MED-309	<b>Course Title</b> Pathology II	<b>ECTS Credits</b> 6
<b>School</b> Medical School	<b>Semester</b> Spring (Semester 6)	<b>Prerequisites</b> MED-304 Pathology I
<b>Type of Course</b> Required	<b>Field</b> Medicine	<b>Language of Instruction</b> English
<b>Level of Course</b> Undergraduate	<b>Year of Study</b> 3rd	<b>Course Lead</b> Dr Dimitrios Kanakis
<b>Mode of Delivery</b> Face-to-face	<b>Work Placement</b> N/A	<b>Co-requisites</b> None

### Objectives of the Course:

The main objectives of the course are to:

- To study the disorders associated with the various endocrine glands of the human body.
- To describe the different renal and urinary system diseases.
- To examine comprehensively the disorders of both the male and female reproductive systems, as well as the various mammary lesions.
- To describe the several benign and neoplastic conditions of the skin and subcutaneous tissue.
- To investigate the pathological processes of the central and peripheral nervous system.
- To explore in depth the diverse disorders of the musculoskeletal system.

### Learning Outcomes:

The following list provides the learning objectives that will be covered in the lectures, and tutorials of each week:

#### Week 1

##### **Lobs covered during lectures:**

- (1) Describe the various types of diabetes mellitus and its related complications.
- (2) Describe the different endocrine pancreatic tumours.
- (3) Describe the various congenital anomalies of the thyroid gland, and the different types of goiter.
- (4) Describe hyper- and hypothyroidism.
- (5) Outline the various types of thyroiditis.
- (6) Describe the benign and malignant tumours of the thyroid gland.
- (7) Describe hyper-, hypo- and pseudo-hypoparathyroidism.
- (8) Describe the benign and malignant tumours of the parathyroid gland.

##### **Lobs covered during lab practical:**

- (9) Observe and describe struma nodosa of the thyroid gland.
- (10) Observe and describe carcinoma medullare of the thyroid gland.

#### Week 2

##### **Lobs covered during lectures:**

- (11) Describe the various adrenal endocrine syndromes.
- (12) Describe the various forms of adrenal insufficiency.

- (13) Describe the benign and malignant tumours of the adrenal gland (cortex & medulla).
- (14) Describe the different diseases of the pituitary/hypothalamus.
- (15) Explain the types of Multiple Endocrine Neoplasia (MEN) syndromes.

***Lobs covered during lab practical:***

- (16) Observe and describe adenoma of the adrenal gland.

**Week 3**

***Lobs covered during lectures:***

- (17) Describe the clinical manifestations of renal diseases.
- (18) Describe the mechanisms of glomerular injury and disease.
- (19) Describe the vascular disorders of the kidneys.
- (20) Discuss the various types of glomerular disorders.
- (21) Describe the different tubular interstitial diseases.
- (22) Explain metabolic and regulatory disorders of the kidneys.
- (23) Describe the infectious disorders of the upper urinary tract.

***Lobs covered during lab practical:***

- (24) Observe and describe glomerular atrophy of kidney (cirrhosis).
- (25) Observe and describe chronic glomerulonephritis.
- (26) Observe and describe chronic pyelonephritis.
- (27) Observe and describe acute nephritis.

**Week 4**

***Lobs covered during lectures:***

- (28) Describe the congenital disorders of the kidneys.
- (29) Describe the cystic diseases of the kidneys.
- (30) Explain urinary outflow obstruction (i.e. renal stones-urolithiasis, uronephrosis).
- (31) Describe the benign and malignant neoplasms of the kidneys.
- (32) Describe the infectious disorders of the lower urinary tract.
- (33) Describe the immunologic and inflammatory disorders of the lower urinary tract.
- (34) Describe the benign and malignant neoplasms of the lower urinary tract.
- (35) Describe the sexually transmitted diseases.

***Lobs covered during lab practical:***

- (36) Observe and describe septic embolic nephritis.
- (37) Observe and describe hypernephroma of the kidney
- (38) Observe and describe papilloma of the urinary bladder.

**Week 5**

***Lobs covered during lectures:***

- (39) Describe the congenital disorders of the male reproductive system (penis, scrotum - testis).
- (40) Outline the infectious and inflammatory disorders of the various organs of the male reproductive system (penis, testis-epididymis, prostate).
- (41) Describe the traumatic and mechanical disorders of testis (i.e. hydrocele, haematocele, chylocele, elephantiasis).
- (42) Explain the penile and testicular neoplasms.
- (43) Define benign prostatic hyperplasia.

- (44) Describe Prostatic Intraepithelial Neoplasia (PIN); low and high grade.
- (45) Describe prostate cancer.
- (46) Explain Gleason Grading System of prostate cancer.

***Lobs covered during lab practical:***

- (47) Observe and describe atrophy of the testis.
- (48) Observe and describe seminoma of the testis.
- (49) Observe and describe hypertrophy of the prostate.
- (50) Observe and describe carcinoma of the prostate.

**Week 6**

***Lobs covered during lectures:***

- (51) Describe the congenital disorders of the breast.
- (52) Describe the infectious, immunologic and inflammatory disorders of the breast.
- (53) Describe the benign and undefined neoplasms of the breast.
- (54) Describe DCIS and LCIS.
- (55) Describe the malignant neoplasms of the breast.
- (56) Explain the tumour grading of breast cancer.

***Lobs covered during lab practical:***

- (57) Observe and describe fibrocystic disease of the breast.
- (58) Observe and describe fibroadenoma of the breast.
- (59) Observe and describe scirrhous carcinoma of the breast.
- (60) Observe and describe carcinoma cervicis uteri.
- (61) Observe and describe endometriosis (in the ovary).

**Week 7**

**Midterm Exam**

***Lobs covered during lectures:***

- (62) Describe the congenital disorders of the female reproductive system.
- (63) Describe the infectious/inflammatory and immunologic disorders of the different organs and structures of the female reproductive system (i.e. vulva, vagina, cervix, uterus, salpinx, ovary).
- (64) Describe the benign neoplasms and cysts of the different organs and structures of the female reproductive system (i.e. vulva, vagina, cervix, uterus, salpinx, ovary).
- (65) Describe the precancerous and malignant lesions of the different organs and structures of the female reproductive system (i.e. vulva, vagina, cervix, uterus, salpinx, ovary).
- (66) Describe the group of pathological diseases/conditions associated with pregnancy.

***Lobs covered during lab practical:***

- (67) Observe and describe myoma of the uterus.
- (68) Observe and describe sarcoma of the uterus.
- (69) Observe and describe ovarian cyst.
- (70) Observe and describe teratoma of the ovary.
- (71) Observe and describe adenocarcinoma of the ovary.

## Week 8

### **Lobs covered during lectures:**

- (72) Describe the congenital disorders of the skin and subcutaneous tissue.
- (73) Describe the infectious disorders of the skin and subcutaneous tissue.
- (74) Explain the immunologic and inflammatory disorders of the skin and subcutaneous tissue.
- (75) Describe the benign neoplasms, cysts and other skin lesions.
- (76) Discuss the malignant neoplasms of the skin and subcutaneous tissue.

### **Lobs covered during lab practical:**

- (77) Observe and describe sebaceous cyst.
- (78) Observe and describe fibroma of the skin.
- (79) Observe and describe congenital giant cell nevus of the skin.
- (80) Observe and describe melanosarcoma of the skin.
- (81) Observe and describe basalioma of the skin.
- (82) Observe and describe squamous cell carcinoma of the skin.

## Week 9

### **Lobs covered during lectures:**

- (83) Describe oedema, herniation and hydrocephalus.
- (84) Describe the traumatic and mechanical disorders of the nervous system.
- (85) Describe the various cerebrovascular diseases.
- (86) Explain the congenital malformations of the nervous system.

## Week 10

### **Lobs covered during lectures:**

- (87) Describe the immunologic and inflammatory disorders of the nervous system.
- (88) Explain the most important prion diseases.
- (89) Describe the different primary diseases of myelin.
- (90) Describe the acquired metabolic and toxic disturbances of the nervous system.
- (91) Describe the various neurodegenerative diseases.
- (92) Describe the benign and malignant neoplasms of the central nervous system.

### **Lobs covered during lab practical:**

- (93) Observe and describe meningitis.
- (94) Observe and describe diffuse astrocytoma.
- (95) Observe and describe glioma cerebri (GBM).

## Week 11

### **Lobs covered during lectures:**

- (96) Describe the main disorders of the peripheral nerves.
- (97) Describe the disorders of the neuromuscular junction.
- (98) Outline the different types of peripheral nerve sheath tumours.
- (99) Describe the most important ocular disorders.

### **Lobs covered during lab practical:**

- (100) Observe and describe neurilemmoma.

(101) Observe and describe malignant schwannoma.

#### Week 12

##### **Lobs covered during lectures:**

(102) Describe the congenital disorders of the musculoskeletal system.

(103) Describe the infectious disorders of the musculoskeletal system.

(104) Discuss the immunologic and inflammatory disorders of the musculoskeletal system.

(105) Describe the degenerative and metabolic disorders of the musculoskeletal system.

(106) Describe the benign neoplasms of the musculoskeletal system.

(107) Describe the malignant neoplasms of the musculoskeletal system.

##### **Lobs covered during lab practical:**

(108) Observe and describe gout.

(109) Observe and describe lipoma.

(110) Observe and describe chondroma of the pubic bone.

(111) Observe and describe osteogenic sarcoma of the bone.

#### **Course Contents:**

- **Endocrine System** (Diseases of the endocrine pancreas, thyroid and parathyroid gland, adrenal gland and pituitary/hypothalamus, MEN)
- **Renal & Urinary System**
- **Male Reproductive System**
- **Female Reproductive System & Breast**
- **Skin & Subcutaneous Tissue**
- **Neuropathology & Sensory Organs**
- **Musculoskeletal System**

#### **Learning Activities and Teaching Methods:**

The course is delivered by lectures and laboratory practicals.

#### **Assessment Methods:**

Midterm Exam (35%) and Final Exam (65%). Assessment is by Single Best Answer MCQs (SBAs) and Short Answer Questions (SAQs).

#### **Required Textbooks/Reading:**

Authors	Title	Edition	Publisher	Year	ISBN
Vinay Kumar, Abul Abbas, Jon Aster	Robbins Basic Pathology	10 <sup>th</sup> Edition	Elsevier	2017	978-0323353175

**Recommended Textbooks/Reading:**

<b>Authors</b>	<b>Title</b>	<b>Edition</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
<b>Cross, S.</b>	<b>Underwood's Pathology: A Clinical Approach</b>	<b>6<sup>th</sup> Edition</b>	<b>Elsevier</b>	<b>2013</b>	<b>978-0702046728</b>
	<b>Step 1 Lecture Notes 2016 in Pathology.</b>		<b>Kaplan</b>	<b>2016</b>	
<b>Walter Kemp, Dennis Burns, Travis Brown</b>	<b>Pathology: the Big Picture</b>	<b>1<sup>st</sup> Edition</b>	<b>McGraw-Hill (LANGE)</b>	<b>2008</b>	<b>978-0071477482</b>
<b>Arthur S. Schneider and Philip A. Szanto</b>	<b>BRS Pathology</b>	<b>5<sup>th</sup> Edition</b>	<b>Lippincott Williams &amp; Wilkins</b>	<b>2014</b>	<b>978-1469829692</b>
<b>Edward F. Goljan</b>	<b>Rapid Review Pathology</b>	<b>4<sup>th</sup> Edition</b>	<b>Elsevier (Saunders)</b>	<b>2014</b>	<b>978-0323087872</b>