Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY for MEDICALS & APPLIED SCIENCES

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Specification of

Endocrine system

Course Code. (A21P321)

2023

T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Ahmed Hudna	Dr. Ahmed Al-hareb	Assoc.prof. Asma Alhnhna	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

I. General Information:

1.	Course Title:	Endocrine system				
2.	Course Code:	A21P321				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		8	6	--	4	--
4.	Level/ Semester at which this Course is offered:	3rd Level / 2nd Semester				
5.	Pre –Requisite (if any):	Physiology, Biochemistry, Anatomy Histology , Pathology and Pharmacology.				
6.	Co –Requisite (if any):	None				
7.	Program (s) in which the Course is Offered:	Bachelor of Medicine and surgery				
8.	Language of Teaching the Course:	English				
9.	Location of Teaching the Course:	Faculty of Medicine				
10.	Prepared by:	Dr. Ahmed Hudna				
11	Date and Number of Approval by Council:	2023				

II. Course Description:

This course provides students with the basic medical knowledge of endocrine system involving the normal structure and function and the general concept of the most pathological disorders of this system. The course will be based on the integrated mode between anatomy, histology, physiology,

biochemistry, pathology, microbiology and pharmacology topics. This course will be divided in theory and practical parts and will be delivered by lectures and laboratory sessions; assessment of the course will be done by quiz, final exam, and practical exam with logbook assessment.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs		
A. Knowledge and Understanding:		**I, P or M/A**		
a1	Describe the structure and the function of the endocrine system on the molecular, cellular and biochemical level to achieve the normal hormonal function	**I**	**A1**	Describe the general and basic sciences related to human body structure and functions with emphasis on normal and abnormal conditions.
a2	Identify the most common disease of endocrine system and their etiology, pathogenesis, clinical presentation, their tool of diagnosis and correct way of management. And differentiate the age-related diseases.	**A**	**A3**	Explain the pathological and pathogenesis changes in various diseases, and their etiological triggers including genetic, developmental, infectious, metabolic, endocrinal, autoimmune, neoplastic, traumatic, degenerative and occupational factors.
B. Intellectual Skills:				
b1	Compare between physiological and pathological performance of body cells.	**I**	**B1**	Compare between normal and abnormal conditions and predict the appropriate treatment or intervention.
b2	Distinguish between various endocrine diseases using the patient's medical history, clinical manifestations and laboratory/radiologic findings.	**P**	**B2**	Analyze and interpret the finding from history, clinical examination and investigations to propose a diagnosis and develop a shared management plan for common acute, chronic and urgent physical and mental health presentations.

	C. Professional and Practical Skills:			
c1	Perform history taking, physical/clinical examinations, and correct laboratory and radiologic investigation requests and interpretations to diagnose endocrine diseases.	**P**	**C1**	Perform complete clinical examination and precise investigations to reach the final diagnosis.
c2	Prescribe appropriate, safe and affordable drugs for initial treatment of patients with endocrine diseases.	**A**	**C3**	Carry out routine medical procedure and demonstrate the ability of using common medical tools required for diagnosis and management with highly qualified competency.
	D. Transferable Skills:			
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.	**P**	**D1**	Communicate with professionals, patients, their families and the community through verbal, written and other non-verbal means.
d2	Act independently or collaboratively as a member of teamwork and communicate effectively with others.	**A**	**D2**	Work individually or in a team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.
I= Introduced, P=Practiced or M/A= Mastered/Advanced				

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
a1	Describe the structure and the function of the endocrine system on the molecular, cellular and biochemical level	▪ Interactive lectures ▪ Discussion ▪ Office hours ▪ Self-learning	▪ Quizzes ▪ Final written exam ▪ Oral desiccation

	to achieve the normal hormonal function		
a2	Identify the most common disease of endocrine system and their etiology, pathogenesis, clinical presentation, their tool of diagnosis and correct way of management. And differentiate the age-related diseases.	▪ Interactive lectures ▪ Discussion ▪ Case studies ▪ PBL ▪ Office hours ▪ Self learning	▪ Quizzes ▪ Final written exam ▪ Final Practical exam ▪ Oral desiccation
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
b1	Compare between physiological and pathological performance of body cells.	▪ Interactive lectures ▪ Seminars ▪ Discussion ▪ Case studies	▪ Final written exam ▪ Final practical exam ▪ Oral desiccation
b2	Distinguish between various endocrine diseases using the patient's medical history, clinical manifestations and laboratory/radiologic findings.	▪ Interactive lectures ▪ Seminars ▪ Discussion ▪ Case studies	▪ Final written exam ▪ Final practical exam ▪ Oral desiccation
(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
c1	Perform history taking, physical/clinical examinations, and correct laboratory and radiologic investigation requests and interpretations to diagnose endocrine diseases.	▪ Lab experiments ▪ Case studies ▪ Office hours ▪ PBL	▪ Final clinical exam ▪ Final practical exam ▪ OSPE
c2	Prescribe appropriate, safe and affordable drugs for initial treatment of patients with	▪ Lab experiments ▪ Office hours ▪ Case studies	▪ Final clinical exam ▪ Final practical exam ▪ OSPE

	endocrine diseases.	▪ PBL	

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.	▪ Seminars ▪ Discussion ▪ Case studies ▪ Self-learning	▪ Oral discussion ▪ Homework ▪ Teamwork
d2	Act independently or collaboratively as a member of teamwork and communicate effectively with others.	▪ Seminars ▪ Discussion ▪ Case studies ▪ Self-learning	▪ Oral discussion ▪ Homework ▪ Teamwork

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Anatomy**	1. Hypothalamus. Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	٦	4	a1,a2,b1,b2,d1,d2
		2. Pituitary gland: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.		4	
		3. Thyroid & Parathyroid glands: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.		4	
		4. Suprarenal gland: Embryology, Gross anatomy, Blood		4	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		supply, Nerve supply & Lymph drainage.			
		5. Pancreas: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.		4	
		6. Pineal gland (Embryology, Position & Pathway)		2	
		7. Thymus & Chromaffin System		2	
	Total			**24**	
2	**Physiology**	1. Introduction to endocrinology	٦	4	a1,a2,b1,b2,d1,d2
		2. Chemical structure and synthesis of hormones, secretion, transport, and clearance.		2	
		3. Mechanisms of action of hormones, feedback control of hormone secretion.		2	
		4. The pituitary hormones and their control by the hypothalamus.		2	
		5. The thyroid metabolic hormones.		2	
		6. The adrenocortical hormones.		2	
		7. Insulin, glucagon, and diabetes mellitus.		2	
		8. Parathyroid hormone, calcitonin, calcium and phosphate metabolism, vitamin D, bone, and teeth.		2	
	Total			**18**	
3	**Bio-chemistry**	1.Classification of hormones and second messenger	٦	4	a1
		2. Synthesis, Structure and metabolic effects of hypothalamus and pituitary hormone.		2	
		3. Synthesis, Structure and metabolic effects of thyroid and parathyroid hormone.		2	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		4. Synthesis, Structure and metabolic effects of adrenal medulla.		2	
		5. Synthesis, Structure and metabolic effects of Steroid hormone.		2	
		6. Synthesis, Structure and metabolic effects of pancreatic hormone.		2	
	Total			**14**	
4	**Pathology**	1. Pituitary disorders: • Hyperpituitarism and Pituitary adenomas. • Hypopituitarism. Suprasellar lesions.	٦	4	a1,a2,b1,b2,d1,d2
		2. Pathology of the thyroid • Thyroiditis: Hashimoto's thyroiditis, • Dequervain's thyroiditis & others. • Graves' disease. • Multinodular goiter. Thyroid tumors: Adenoma, Papillary carcinoma, follicular carcinoma, medullary carcinoma & anaplastic carcinoma.		4	
		3. Parathyroid disorders: • Parathyroid hyperplasia. Parathyroid adenoma.		2	
		4. Disorders of endocrine pancreas: Diabetes mellitus: Classification, etiology, pathogenesis, complications & morphology.		2	
		5. Disorders of adrenal glands: • Adrenal cortical hyperplasia. • Adrenal cortical neoplasia: adenoma & carcinoma. Pheochromocytoma.		2	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		6. Hyperadrenalism and Hypoadrenalism		2	
		7. Adrenogenital Syndromes		2	
		8. Multiple endocrine neoplasia syndrom		2	
	Total			**20**	
5	**Pharmacology**	1. Introduction to Pituitary gland: • Growth hormone • Prolactin • Vasopressin	٦	4	a1, a2, b2
		2. Thyroid & Antithyroid drugs		2	
		3.Parathyroid & agents affecting bone mineral homeostasis		2	
		4.Adrenocorticoids & Adrenocortical antagonists		2	
		5.Pancreatic hormones & Antidiabetic drugs		4	
	Total			**14**	
6	**Medicine**	1. Hypothalamus & pituitary gland: • Acromegaly & gigantisms. • Nephrogenic D.1.	٦	2	a2, b1, b2, d1, d2
		2. Thyroid & Parathyroid glands: • Thyrotoxicosis • b Tetany		2	
		3. Suprarenal glands: • Cushing syndrome • Addison Disease		2	
		4. Pancreas: • D.M. (Diabetic ketoacidosis) • Hypoglycemic disorders.		4	
	Total			**10**	
7	**Pediatrics**	1. Disturbances of growth.	٦	2	a2, b1, b2, d1, d2
		2. Fetal development of the thyroid & congenital hypothyroidism (cretinism).		2	
		3. Disorders of calcium homeostasis: Hypoparathyroidism		2	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		Idiopathic hypercalcemia of infancy.			
		4. Congenital adrenal hyperplasia.		2	
		5. Diabetes mellitus in children.		2	
	Total			10	
8	**Surgery**	1. Pituitary tumors Craniopharyngioma & Metastatic tumors	٦	2	a2, b1, b2, d1, d2
		2. Carcinoma of the thyroid & goiter		2	
		3. Multiple endocrine Neoplasia		2	
		4. Pheochromocytoma.		2	
		5. Endocrine portion of the pancreas		2	
	Total			**10**	
	TOTAL			**120**	
	Final Theoretical Exam		7th	2	a1, a2, b1, b2
Number of Weeks /and Units Per Semester			**7 W**	**122**	

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	. Hypothalamus. Pituitary gland 3. Thyroid & Parathyroid glands: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage. 4. Suprarenal gland: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	4	16	c1,c2, b1, b2,d1,d2

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Ahmed Hudna	Dr. Ahmed Al-hareb	Assoc.prof. Asma Alhnhna	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
	5. Pancreas: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.			
2	**Pathology** Pituitary disorders: • Hyerpituitarism and Pituitary adenomas. • Hypopituitarism. • Supracellar lesions. Pathology of the thyroid • Thyoiditis: Hashimoto's thyroiditis, • Dequervain's thyroiditis & others. • Graves' disease. Parathyroid disorders: • Parathyroid hyperplasia. • Parathyroid adenoma. Disorders of endocrine pancreas: • Diabetes mellitus: Classification, etiology, pathogenesis, complications & morphology.	**4**	16	c1,c2, b1, b2,d1,d2
3	**Basic clinical skills** History taking and examination of a patient with endocrine problem	**4**	8	c1,c2, b1, b2,d1,d2
4	- **Final practical exam**	6th	2	c1, c2, b1, b2
Number of Weeks /and Units Per Semester		**6 W**	**42**	

V. Teaching Strategies of the Course:

- Interactive lectures
- Discussion

- Case studies
- Seminars
- PBL
- Office hours
- Self-learning
- Lab experiments

VI. Assessment Methods of the Course:

- Quizzes
- Final written exam
- Final practical exam
- OSPE
- Oral discussion
- Homework
- Teamwork

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	**Quizzes**	3rd	5	5%	a1,a2, b1,b2
2	**Oral desiccation & Homework**	5th	15	15%	a1,a2, b1,b2,d1,d2
3	**Final Practical Exam & OSPE**	6th	30	30%	c1,c2, b1,b2,
4	**Final Theoretical Exam**	7th	50	50%	a1,a2, b1,b2,
Total			**100**	**100%**	

IX. Learning Resources:

1- Required Textbook(s):

1- S Standring, 2016, Gray's Anatomy: The Anatomical Basis of Clinical Practice, 41st

Edition, Elsevier.

2- K E Barrett, S M Barman, S Boitano, H L Brooks, 2015, Ganong's Review of Medical Physiology, 25th Edition, New York, McGraw-Hill Medical Education.

3- L Junqueira, J Carneiro, 2005, Basic Histology. Text and Atlas, 11th Edition, New York, McGraw-Hill Medical.

4- R Goering, H Dockrell, M Zuckerman, P Chiodini, 2019, Mims' Medical Microbiology and Immunology, 6th Edition, Edinburgh, Elsevier.

5- V Kumar, A Abas, J Aster, 2017, Robbins Basic Pathology, 10th Edition, Elsevier.

6- M A Clark, R Finkel, J A Rey, K Whalen, 2011, Lippincott's Illustrated Reviews: Pharmacology, 5th Edition, Philadelphia, Lippincott Williams & Wilkins.

2- Essential References:

1- R S Snell, 2000, Clinical Anatomy for Medical Students, 6th Edition, Washington, Little, Brown and Company.

2- J E Hall, 2013, Guyton and Hall Textbook of Medical Physiology, 13th Edition, Philadelphia, Saunders.

3- V Kumar, A Abas, J Aster, 2020, Robbins & Cotran Pathologic Basis of Disease, 9th Edition, Philadelphia, Saunders.

4- C Ray, K J Ryan, 2003, Sherris Medical Microbiology: An Introduction to Infectious Diseases, 4th Edition, New York, McGraw-Hill Medical Education.

5- B Katzung, 2017, Basic and Clinical Pharmacology, 14th Edition, New York, McGraw-Hill Medical Education.

3- Electronic Materials and Web Sites etc.:

Websites:

1- The Visible Body Learn Site
https://www.visiblebody.com/learn/nervous

2- Medical news today
https://www.medicalnewstoday.com/articles/307076

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:**

	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Plan (Syllabus) of

Endocrine system

Course Code. (A21P321)

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member:		**Office Hours**						
Location& Telephone No.:	-----							
E-mail:	--@--.--	SAT	SUN	MON	TUE	WED	THU	

2022/2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Ahmed Hudna	Dr. Ahmed Al-hareb	Assoc.prof. Asma Alhnhna	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

II. Course Identification and General Information:

	Course Title:	**Endocrine system**				
	Course Code:	A21P321				
	Credit Hours:	**Credit Hours**	**Theory Contact Hours**		**Practical Contact Hours**	
			Lecture	**Tutorial/Seminar**	**Lab**	**Clinical**
		8	6	--	4	--
	Level/ Semester at which this Course is offered:	3rd Level / 2nd Semester				
	Pre –Requisite (if any):	Physiology, Biochemistry, Anatomy Histology , Pathology and Pharmacology.				
	Co –Requisite (if any):	None				
	Program (s) in which the Course is Offered:	Bachelor of Medicine and surgery				
	Language of Teaching the Course:	English				
	Location of Teaching the Course:	Faculty of Medicine				
	Prepared by:	Dr. Ahmed Hudna				
11	**Date and Number of Approval by Council:**	2023				

III. Course Description:

This course provides students with the basic medical knowledge of endocrine system involving the normal structure and function and the general concept of the most pathological disorders of this system. The course will be based on the integrated mode between anatomy, histology, physiology, biochemistry, pathology, microbiology and pharmacology topics. This course will be divided in theory and practical parts and will be delivered by lectures and laboratory sessions; assessment of the course will be done by quiz, final exam, and practical exam with logbook assessment.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

	A**. Knowledge and Understanding:**
a1	Describe the structure and the function of the endocrine system on the molecular, cellular and biochemical level to achieve the normal hormonal function
a2	Identify the most common disease of endocrine system and their etiology, pathogenesis, clinical presentation, their tool of diagnosis and correct way of management. And differentiate the age-related diseases.
	B**. Intellectual Skills:**
b1	Compare between physiological and pathological performance of body cells.
b2	Distinguish **between various endocrine** diseases using the patient's medical history, clinical manifestations and laboratory/radiologic findings.
	C. Professional and Practical Skills:
c1	Perform history taking, physical/clinical examinations, and correct laboratory and radiologic investigation requests and interpretations to diagnose endocrine diseases.
c2	Prescribe appropriate, safe and affordable drugs for initial treatment of patients with endocrine diseases.
	D**. Transferable Skills:**
d1	**Use the information technology and internet** resources efficiently for self-learning and gaining up-to-date information in the areas of interest.
d2	Act independently or collaboratively as a member of teamwork and communicate effectively with others.
I=	

Introduced, P= Practiced or M/A= Mastered /Advanced

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	**Anatomy**	1. Hypothalamus. Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	1	4
		2. Pituitary gland: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.		4
		3. Thyroid & Parathyroid glands: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	2	4

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		4. Suprarenal gland: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	3	4
		5. Pancreas: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.		4
		6. Pineal gland (Embryology, Position & Pathway)	4	2
		7. Thymus & Chromaffin System		2
	Total			**24**
2	**Physiology**	1. Introduction to endocrinology	1	4
		2. Chemical structure and synthesis of hormones, secretion, transport, and clearance.		2
		3. Mechanisms of action of hormones, feedback control of hormone secretion.		2
		4. The pituitary hormones and their control by the hypothalamus.	2	2
		5. The thyroid metabolic hormones.		2
		6. The adrenocortical hormones.	3	2
		7. Insulin, glucagon, and diabetes mellitus.		2
		8. Parathyroid hormone, calcitonin, calcium and phosphate metabolism, vitamin D, bone, and teeth.	4	2
	Total			**18**
3	**Bio-chemistry**	1.Classification of hormones and second messenger	1	4
		2. Synthesis, Structure and metabolic effects of hypothalamus and pituitary hormone.		2
		3. Synthesis, Structure and metabolic	2	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		effects of thyroid and parathyroid hormone.		
		4. Synthesis, Structure and metabolic effects of adrenal medulla.	3	2
		5. Synthesis, Structure and metabolic effects of Steroid hormone.		2
		6. Synthesis, Structure and metabolic effects of pancreatic hormone.	4	2
	Total			**14**
4	**Pathology**	1. Pituitary disorders: • Hyperpituitarism and Pituitary adenomas. • Hypopituitarism. Suprasellar lesions.	1	4
		2. Pathology of the thyroid • Thyroiditis: Hashimoto's thyroiditis, • Dequervain's thyroiditis & others. • Graves' disease. • Multinodular goiter. Thyroid tumors: Adenoma, Papillary carcinoma, follicular carcinoma, medullary carcinoma & anaplastic carcinoma.		4
		3. Parathyroid disorders: • Parathyroid hyperplasia. Parathyroid adenoma.	2	2
		4. Disorders of endocrine pancreas: Diabetes mellitus: Classification, etiology, pathogenesis, complications & morphology.		2
		5. Disorders of adrenal glands: • Adrenal cortical hyperplasia. • Adrenal cortical neoplasia:	3	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		adenoma & carcinoma. Pheochromocytoma.		
		6. Hyperadrenalism and Hypoadrenalis	4	2
		7. Adrenogenital Syndromes		2
		8. Multiple endocrine neoplasia syndro		2
	Total			**20**
5	**Pharmacology**	1. Introduction to Pituitary gland: • Growth hormone • Prolactin • Vasopressin	2	4
		2. Thyroid & Antithyroid drugs	3	2
		3.Parathyroid & agents affecting bone mineral homeostasis		2
		4.Adrenocorticoids & Adrenocortical antagonists	4	2
		5.Pancreatic hormones & Antidiabetic drugs		4
	Total			**14**
6	**Medicine**	1. Hypothalamus & pituitary gland: • Acromegaly & gigantisms. • Nephrogenic D.1.	2	2
		2. Thyroid & Parathyroid glands: • Thyrotoxicosis • b Tetany		2
		3. Suprarenal glands: • Cushing syndrome • Addison Disease	3	2
		4. Pancreas: • D.M. (Diabetic ketoacidosis) • Hypoglycemic disorders.	4	4
	Total			**10**
7	**Pediatrics**	1. Disturbances of growth.	2	2
		2. Fetal development of the thyroid & congenital hypothyroidism (cretinism).		2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		3. Disorders of calcium homeostasis: Hypoparathyroidism Idiopathic hypercalcemia of infancy.	3	2
		4. Congenital adrenal hyperplasia.		2
		5. Diabetes mellitus in children.	4	2
	Total			10
8	**Surgery**	1. Pituitary tumors Craniopharyngioma & Metastatic tumors	2	2
		2. Carcinoma of the thyroid & goiter	3	2
		3. Multiple endocrine Neoplasia		2
		4. Pheochromocytoma.	4	2
		5. Endocrine portion of the pancreas		2
	Total			**10**
	TOTAL			**120**
	Final Theoretical Exam		5th	2
Number of Weeks /and Units Per Semester			**5**	**122**

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours
1	. Hypothalamus. Pituitary gland 3. Thyroid & Parathyroid glands: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage. 4. Suprarenal gland: Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage. 5. Pancreas:	4	16

No.	Tasks/ Experiments	Week Due	Contact Hours
	Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.		
2	**Pathology** Pituitary disorders: • Hyerpituitarism and Pituitary adenomas. • Hypopituitarism. • Supracellar lesions. Pathology of the thyroid • Thyoiditis: Hashimoto's thyroiditis, • Dequervain's thyroiditis & others. • Graves' disease. Parathyroid disorders: • Parathyroid hyperplasia. • Parathyroid adenoma. Disorders of endocrine pancreas: • Diabetes mellitus: Classification, etiology, pathogenesis, complications & morphology.	**4**	16
3	**Basic clinical skills** History taking and examination of a patient with endocrine problem	**4**	8
4	- **Final practical exam**	5	2
Number of Weeks /and Units Per Semester			**42**

V. Teaching Strategies of the Course:

– Interactive lectures

- Discussion
- Case studies
- Seminars
- PBL
- Office hours
- Self-learning
- Lab experiments
- Training

VI. Assessment Methods of the Course:

- Quizzes
- Final written exam
- Final clinical exam
- Final practical exam
- OSPE
- Oral discussion
- Homework
- Teamwork

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	
1	**Quizzes**	3rd	5	5%	
2	**Oral desiccation & Homework**	5th	15	15%	
3	**Final Practical Exam & OSPE**	6th	30	30%	
4	**Final Theoretical Exam**	7th	50	50%	
Total			**100**	**100%**	

IX. Learning Resources:

- *Written in the following order:* Author, Year of publication, Title, Edition, Place of publication, Publisher.

1- Required Textbook(s) (maximum two):

6- S Standring, 2016, Gray's Anatomy: The Anatomical Basis of Clinical Practice, 41st Edition, Elsevier.

7- K E Barrett, S M Barman, S Boitano, H L Brooks, 2015, Ganong's Review of Medical Physiology, 25th Edition, New York, McGraw-Hill Medical Education.

8- L Junqueira, J Carneiro, 2005, Basic Histology. Text and Atlas, 11th Edition, New York, McGraw-Hill Medical.

9- R Goering, H Dockrell, M Zuckerman, P Chiodini, 2019, Mims' Medical Microbiology and Immunology, 6th Edition, Edinburgh, Elsevier.

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XI. Course Policies: (Based on the Uniform Students' Bylaw (2007)

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Ahmed Hudna	Dr. Ahmed Al-hareb	Assoc.prof. Asma Alhnhna	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.