



## Course Syllabus of Endocrinology & Metabolism

Faculty : Medicine and health sciences  
Department: Basic Sciences  
Program : Bachelor of Medicine and Surgery

I. General information about the course instructor :							
Name	More than 10	Office Hours(3 Hours Weekly )					
Location & phone number	-	Sat	Sun	Mon	Tue	Wed	Thu
Email							

II. General information about the course:							
1	Course Title :	Endocrinology & Metabolism					
2	Course Code and Number :	BMD28					
3	Credit Hours :	Credit Hours					Total
		Theoretical	Seminar/Tutorial	Practical	Clinical	Training	
		7		1	-	-	
4	Study Level and Semester:	4th year/ 2 <sup>nd</sup> semester					
5	Pre-requisites:	Introductory blocks of the first and second year					
6	Co-requisites :	None					
7	Program in which the course is offered:	Bachelor of Medicine and Surgery					
8	Teaching Language:	English					
9	Instruction location:	University of Science and Technology, Sana'a					

### III. Course Description:

The general aim of the Endocrinology block is to provide students with basic and clinical knowledge of endocrine glands functions and through this knowledge be able to understand disease states. This is a multidisciplinary course (block) integrating topics in basic medical sciences (anatomy, physiology, histology, pathology and biochemistry) with the clinical sciences. The block is taught through various learning and teaching strategies including lecture, problem based learning, student group discussion, seminars, practical and self-learning.

### IV. Course Aims

The aims of the course are to :

1. Provide students with the relevant knowledge of the components of the normal structure, function correlation, and control systems of endocrine glands.
2. Enhance the logical thinking and problem-solving skills of the student through the application of the problem based learning (PBL).
3. Acquire the students the skills of taking the history and performing the clinical examination.
4. Teach the students the ability for diagnosis, management of the common and/ or important endocrinological diseases

### V. Course Intended Learning Outcomes (CILOs) :

1. Describe the anatomical, histological, physiological and biochemical features of the endocrine glands..
2. Identify the symptoms and signs of common endocrinological diseases and disturbances of this system and their prevention.
3. Correlate basic biomedical sciences with clinical sciences to reach a diagnosis of problem with a endocrine disorders
4. Perform medical history and clinical examination of a patient with a endocrine disorders ( in the Skill lab)
5. Carry out an initial assessment of a patients with endocrine problem and suggest acceptable differential diagnoses (through clinical scenarios).
6. Synthesize the principle steps of management for patients with common endocrine disorders.
7. Work effectively in a team through preparing collective assignments by using various information technology.

<b>VI. Course Contents</b>				
<b>First: Theoretical Aspects</b>				
<b>Course Topics/Units</b>		<b>Sub-topics</b>	<b>No. of Lectures</b>	<b>Contact Hours</b>
<b>1. Anatomy</b>	2. Hypothalamus	Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	1	2
	2. Pituitary gland	Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	1	2
	3. Thyroid & Parathyroid glands	Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	1	2
	4. Anatomy of neck	Posterior triangle of the neck	1	2
		Anterior triangle of the neck	1	2
		Medline structure of the neck	1	2
		Lymph drainage of head and neck		
	5. Suprarenal gland	Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	1	2
	6. Pancreas	Embryology, Gross anatomy, Blood supply, Nerve supply & Lymph drainage.	1	2
7. Pineal gland, Thymus & Chromaffin System	(Embryology, Position & Pathway)	1	2	
<b>Total</b>			<b>9</b>	<b>18</b>
<b>2. Physiology</b>	2. Introduction to endocrinology	Classification, secretion, transport, feedback control and mechanisms of action of hormones	2	4
	6. Hypothalamus and Pituitary gland	The pituitary hormones and their control by the hypothalamus.	2	4
	7. Thyroid & Parathyroid glands	Function, transport and feedback control of thyroid hormone Parathyroid hormone, calcitonin, calcium and phosphate metabolism, vitamin D, bone, and teeth.	2	4
	8. Suprarenal gland	The adrenocortical hormones.	2	4
	9. Pancreas	Insulin, glucagon, and diabetes mellitus.	2	4
	<b>Total</b>			<b>10</b>

3. Biochemistry	1. Introduction	Classification of hormones and second messenger	1	2
	2. Hypothalamus and Pituitary gland	Synthesis, Structure and metabolic effects of hypothalamus and pituitary hormone.	1	2
	3. Thyroid & Parathyroid glands	Synthesis, Structure and metabolic effects of thyroid and parathyroid hormone.	1	2
	4. Suprarenal gland	Synthesis, Structure and metabolic effects of adrenal medulla.	1	2
	5. Gonads	Synthesis, Structure and metabolic effects of Steroid hormone.	1	2
	6. Pancreas	Synthesis, Structure and metabolic effects of pancreatic hormone.	1	2
	Total		6	12
4-Histology	1. Hypothalamus and Pituitary gland	Normal cellular tissue of Hypothalamus and Pituitary gland	1	2
	2. Thyroid & Parathyroid glands	Normal cellular tissue of Thyroid & Parathyroid glands	1	2
	3. Suprarenal gland and endocrine part of the pancreas	Normal cellular tissue of Suprarenal gland and endocrine part of the pancreas	1	2
	Total		3	6
-5-Pathology	1. Hypothalamus and Pituitary gland	Hyperpituitarism and Pituitary adenomas. Hypopituitarism. Supracellular lesions.	1	2
	2. Thyroid & Parathyroid glands	Thyroiditis: Hashimoto's thyroiditis, Dequervain's thyroiditis & others. Graves' disease. Multinodular goiter. Thyroid tumours: Adenoma, Papillary carcinoma, follicular carcinoma, medullary carcinoma & anaplastic carcinoma. Parathyroid hyperplasia. Parathyroid adenoma.	3	6
	3. Suprarenal gland and endocrine part of the pancreas	Diabetes mellitus: Classification, etiology, pathogenesis, complications & morphology. Adrenal cortical hyperplasia. Adrenal cortical neoplasia: adenoma & carcinoma. Pheochromocytoma. Hyperadrenalism and Hypoadrenalism Adrenogenital Syndromes	3	4

	4. Multiple endocrine neoplasia syndrome	Different types of endocrine neoplasia syndrome		1
	Total		7	13
6-Pharmacology	1. Hypothalamus and Pituitary gland	Growth hormone, Prolactin and Vasopressin	2	4
	2. Thyroid & Parathyroid glands	Thyroid & Antithyroid drugs Parathyroid & agents affecting bone mineral homeostasis	2	4
	3. Suprarenal gland	Adrenocorticoids & Adrenocortical antagonists	1	2
	4. Pancreas	Pancreatic hormones & Antidiabetic drugs	1	2
	Total		6	12
7--Medicine	1. Hypothalamus and Pituitary gland	Acromegaly & gigantisms. Nephrogenic D.I. Prolactinemia	1	2
	2. Thyroid & Parathyroid glands	Thyrotoxicosis Hypothyroidism	1	2
	3. Suprarenal gland	Cushing syndrome Addison Disease Adrenal insufficiency	1	2
	4. Pancreas	D.M. (Diabetic Ketoacidosis) Hypoglycemic disorders .	1	2
	Total		4	8
8-Pediatrics	1. Hypothalamus and Pituitary gland	Disturbances of growth.	1	2
	2. Thyroid & Parathyroid glands	Congenital hypothyroidism (cretinism) Hypoparathyroidism Idiopathic hypercalcemia of infancy.	2	3
	3. Suprarenal gland	Congenital adrenal hyperplasia.		1
	4. Pancreas	Diabetes mellitus in children.	1	2
	Total		4	8
9-Surgery	1. Thyroid & Parathyroid glands	Carcinoma of the thyroid & goiter		3
	2. Suprarenal gland	Multiple endocrine Neoplasia	4	4
	3. Pancreas	pancreatitis pancreas		1
	Total		4	8
<b>Total</b>			<b>53</b>	<b>105=7C H</b>

<b>Second: Practical/Tutorial/Clinical Aspects</b>			
<b>No.</b>	<b>Practical/Tutorial/Clinical topics</b>	<b>No. of Labs</b>	<b>Contact Hours</b>
<b>2- Anatomy</b>	2. Hypothalamus	1	2
	2. Pituitary gland	1	2
	3. Thyroid & Parathyroid glands:	1	2
	4. Suprarenal gland:	1	2
	5. Pancreas:	1	2
	6. Posterior triangle of the neck	1	2
	7. Anterior triangle of the neck	1	2
	8. Medline structure of the neck	1	2
	9. Lymph drainage of head and neck	1	2
<b>Total</b>		<b>15</b>	<b>18</b>
<b>2-Histology</b>	4. Hypothalamus and Pituitary gland	1	2
	5. Thyroid & Parathyroid glands		
	6. Suprarenal gland and endocrine part of the pancreas	1	2
	<b>Total</b>	<b>2</b>	<b>4</b>
<b>3-Pathology</b>	4. Hypothalamus and Pituitary gland	2	4
	5. Thyroid & Parathyroid glands		
	6. Suprarenal gland and endocrine part of the pancreas	2	4
	<b>Total</b>	<b>4</b>	<b>8</b>
<b>Total</b>		<b>15</b>	<b>30=1CH</b>