

# In the Name of God



**Hamadan University of Medical Sciences and Health Services  
Educational Deputy of the University  
Center for Studies and Development of Medical Sciences Education**

## **Theory/Practical Lesson Plan Form**

**Dear Colleagues,**

As the teaching-learning process is one that requires careful planning to achieve its objectives, the preparation of a lesson plan at the beginning of the educational process (as a map and guide for instructors and students) is essential. It serves as one of the main tools for the educational activities of instructors. Therefore, we kindly ask all instructors to pay utmost attention to completing the lesson plan.

**Course and Instructor Details (Completing all items in this section is essential)**

Course information

- Course Title: Endocrine Physiology
- Instructors: Dr. Alireza Komaki; Dr. Safoura Raoufi
- Course Coordinator: Dr. Alireza Komaki
- Head of Department: Dr. Siamak Shahidi
- Credit Hours: Theory: 2.0 units; Practical: 0.0 units
- Program & Level: MSc (Master's)
- Term: First semester, Academic Year 1402–1403
- Teaching Location: School of Medicine
- Language of instruction: English

Session table (17 sessions)

<b>Ses sion</b>	<b>Topic</b>	<b>Behavioral Objectives</b>	<b>Lear ning Dom ain</b>	<b>Teach ing Meth ods</b>	<b>Dur atio n</b>	<b>Teac hing Aids</b>	<b>Assess ment Metho d</b>
<b>1</b>	Introduction to Endocrinology	1. Define basic concepts of neuroendocrinology .	Cogn itive	Lectur e; film; Power Point with image s; Q&A	2 hour s	Video projec tor, comp uter	Essay questi ons (end of course )
<b>2</b>	Introduction to Endocrinology — Hormone Chemistry & Synthesis	1. Describe chemical structure and synthetic pathways of hormones.	Cogn itive	Lectur e; film; Power Point with image s; Q&A	2 hour s	Video projec tor, comp uter	Essay questi ons (end of course )
<b>3</b>	Hormone Receptors and Mechanisms	1. Describe structure of hormone receptors. 2. Explain mechanisms of hormone action.	Cogn itive	Lectur e; film; Power Point with image s; Q&A	2 hour s	Video projec tor, comp uter	Essay questi ons (end of course )
<b>4</b>	Hypothalamic–Pitui tary Relationship I	1. Explain hypothalamic–pituit ary connections. 2. Describe structure and cell types of the anterior pituitary.	Cogn itive	Lectur e; film; Power Point with image s; Q&A	2 hour s	Video projec tor, comp uter	Essay questi ons (end of course )
<b>5</b>	Hypothalamic–Pitui tary Relationship II	1. Explain physiological effects of posterior pituitary hormones.	Cogn itive	Lectur e; film; Power Point with image s; Q&A	2 hour s	Video projec tor, comp uter	Essay questi ons (end of course )

<b>6</b>	Thyroid Hormones I	1. Describe physiological effects of thyroid hormones.	Cognitive	Lecture; film; PowerPoint with images; Q&A	2 hours	Video projector, computer	Essay questions (end of course)
<b>7</b>	Thyroid Hormones II	1. Explain control of thyroid hormone secretion. 2. Describe clinical conditions related to thyroid hormones.	Cognitive	Lecture; film; PowerPoint with images; Q&A	2 hours	Video projector, computer	Essay questions (end of course)
<b>8</b>	Hypothalamic–Pituitary–Adrenal (HPA) Axis I	1. Describe the HPA axis and physiologic effects of its hormones.	Cognitive	Lecture; film; PowerPoint with images; Q&A	2 hours	Video projector, computer	Essay questions (end of course)
<b>9</b>	Hypothalamic–Pituitary–Adrenal (HPA) Axis II	1. Explain diseases of the adrenal cortex. 2. Describe physiological effects of adrenal medullary hormones.	Cognitive	Lecture; film; PowerPoint with images; Q&A	2 hours	Video projector, computer	Essay questions (end of course)
<b>10</b>	Pancreas — Part I	1. Describe physiological anatomy of pancreatic islets. 2. Explain chemical structure, signaling pathways, target effects and regulation of insulin secretion.	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A
<b>11</b>	Pancreas — Part II	1. Describe effects and regulation of glucagon secretion. 2. Describe effects	Cognitive	Lecture; group	2 hours	Video projector, comp	Q&A

		and regulation of somatostatin. 3. Explain disorders related to insulin.		discussion		uter, white board	
12	Calcium–Phosphate Balance; Parathyroid & Calcitonin — Part I	1. Explain distribution of calcium and phosphate in the body. 2. Describe disorders of hypercalcemia and hypocalcemia. 3. Explain bone physiology.	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A
13	Calcium–Phosphate Balance; Parathyroid & Calcitonin — Part II	1. Explain roles of bone, kidney and GI tract in calcium–phosphate balance. 2. Describe physiologic anatomy of parathyroid glands, PTH function and regulation. 3. Explain vitamin D and calcitonin functions and regulation.	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A
14	Male Reproductive System — Part I	1. Describe physiologic anatomy of the male reproductive system. 2. Explain spermatogenesis and male sex hormones.	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A
15	Male Reproductive System — Part II	1. Explain male sexual function, sexual development and the hypothalamic–pituitary–testicular axis.	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A
16	Female Reproductive System — Part I	1. Describe physiologic anatomy of the female reproductive system. 2. Explain oogenesis and female sex	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A

		hormones. 3. Describe ovarian and uterine events of the female sexual cycle.					
17	Female Reproductive System — Part II; Pregnancy & Lactation	1. Explain female sexual function, sexual development and the hypothalamic–pituitary–ovarian axis. 2. Describe fertilization, implantation, physiologic changes of pregnancy, labor and lactation.	Cognitive	Lecture; group discussion	2 hours	Video projector, computer, white board	Q&A

#### Student assessment table

Assessment type	Date	Assessment tool	Weight (% of final grade)
Classroom Q&A	Selected sessions	Oral	10%
Seminar presentation	Specified date	Oral presentation + Q&A	10%
Midterm exam	—	—	—
Final exam	According to academic calendar	Essay questions (descriptive)	80%
Other	—	—	—
Total	—	—	100%

#### References

1. Berne & Levy Physiology — latest edition (recommended)
2. Guyton and Hall — Textbook of Medical Physiology — latest edition
3. Ganong — Review of Medical Physiology — latest edition