

# 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 information

| <b>Field</b>                       | <b>Details</b>                                |
|------------------------------------|---|
| <b>Course title</b>                | Anatomy of Endocrine Glands                   |
| <b>Instructor</b>                  | Dr. Elham Shiri                               |
| <b>Course coordinator</b>          | Dr. Elham Shiri                               |
| <b>Head of Department</b>          | Dr. Maryam Bahmanzadeh                        |
| <b>Credit breakdown</b>            | Theory: 0.24 credits; Practical: 0.16 credits |
| <b>Student program &amp; level</b> | Doctor of Medicine (Professional Doctorate)   |
| <b>Semester</b>                    | First Semester, Academic Year 2024–2025       |
| <b>Teaching location</b>           | Faculty of Medicine                           |

Theoretical sessions

| <b>Session</b> | <b>Topic</b>                       | <b>Learning objectives</b>  | <b>Learning domain</b> | <b>Teaching methods</b>   | <b>Duration</b> | <b>Teaching aids</b>              | <b>Evaluation methods</b> |
|----------------|------------------------------------|---|------------------------|---------------------------|-----------------|-----------------------------------|---------------------------|
| 1              | Pituitary gland and adrenal glands | 1. Explain mechanisms and modes of endocrine secretion. 2. Describe anatomy and functions of the hypothalamus. 3. Describe pituitary anatomy, subdivisions, location, relations, and blood supply. 4. Explain pituitary embryogenesis. 5. Describe pituitary histology, cell types, secreted hormones and their functions. 6. Explain hypothalamic regulation of pituitary. 7. Describe adrenal glands' location, relations, and blood supply. 8. Explain adrenal | Cognitive              | Lecture, group discussion | 120 min         | PowerPoint, whiteboard, projector | Quiz; Q&A                 |

|   |  |   |           |                           |        |                                   |           |
|---|--|---|-----------|---------------------------|--------|-----------------------------------|-----------|
|   |  | embryogenesis. 9. Describe adrenal cortex and medulla organization, cell arrangements, hormones and their functions.  |           |                           |        |                                   |           |
| 2 | Thyroid gland and parathyroid glands (and endocrine pancreas overview) | 1. Describe thyroid parts, relations, arterial supply and venous drainage. 2. Explain thyroid embryogenesis. 3. Describe histological arrangement and cell types of thyroid. 4. Explain thyroid hormone synthesis and functions. 5. Describe location and relations of parathyroids. 6. Explain parathyroid embryogenesis. 7. Name parathyroid cell types and their hormones. 8. Name pancreatic endocrine cell types and their | Cognitive | Lecture, group discussion | 90 min | PowerPoint, whiteboard, projector | Quiz; Q&A |

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|  |  | hormones. |  |  |  |  |  |
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Practical sessions

| Session              | Topic                         | Learning objectives  | Learning domain         | Teaching methods                             | Duration | Teaching aids                      | Evaluation methods              |
|----------------------|-------------------------------|--|-------------------------|--|----------|------------------------------------|---------------------------------|
| <b>1 (Practical)</b> | Pituitary histology           | 1. Identify pituitary capsule on slides. 2. Differentiate anterior vs posterior pituitary on slides. 3. Identify posterior pituitary components (pituicytes, Herring bodies). 4. Identify chromophobe, acidophil and basophil cells on slides. 5. Identify Rathke's cleft/cysts on slides. | Cognitive (application) | Observation, demonstration, group discussion | 180 min  | Light microscope, histology slides | Quiz; Oral questions; Checklist |
| <b>2 (Practical)</b> | Adrenal and thyroid histology | 1. Identify adrenal capsule. 2. Demonstrate subcapsular vascular network. 3. Identify zona glomerulosa, zona fasciculata, zona   | Cognitive (application) | Observation, demonstration, group discussion | 180 min  | Light microscope, histology slides | Quiz; Oral questions; Checklist |

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|  |  | reticularis and medulla. 4. Identify thyroid capsule. 5. Recognize thyroid follicles. 6. Differentiate follicular and parafollicular © cells. 7. Identify vascular and connective structures between follicles. |  |  |  |  |  |
|--|--|---|--|--|--|--|--|

#### Grading scheme

| Assessment type                  | Assessment tool   | Weight |
|----------------------------------|---|--------|
| <b>Quiz</b>                      | Multiple-choice and short-answer written questions                              | 10%    |
| <b>Practical exam (end-term)</b> | Identification of specified regions on histology slides (per academic calendar) | 30%    |
| <b>Final theoretical exam</b>    | Multiple-choice, essay, and short-answer questions (per academic calendar)      | 55%    |
| <b>Other activities</b>          | Class participation, answering instructor questions, interest and follow-up     | 5%     |
| <b>Total</b>                     | —   | 100%   |

#### References

- Gray's Anatomy (Gray, H.) — Gray's Anatomy: The Anatomical Basis of Clinical Practice
- Snell, R. — Clinical Anatomy
- Junqueira, L.C. (or Junqueira & Carneiro) — Basic Histology: Text & Atlas (Junqueira's)
- Langman, J. — Langman's Medical Embryology