

Special Senses Anatomy (Theory and Practical)

Iran University of Medical Sciences and Health Services

Vice-Chancellor for Education

Center for the Study and Development of Medical Education

Educational Planning Unit

Course Design Framework (Theoretical and Practical)

Course Information

- **Department Offering the Course:** Anatomy
 - **Course Title:** Special Senses Anatomy (Theory and Practical)
 - **Number and Type of Credits:** 0.9 credits (0.8 theoretical + 0.1 practical)
 - **Course Coordinator:** Dr. Mehrdad Ghorbanlou
 - **Instructor(s):** Dr. Mehrdad Ghorbanlou
 - **Prerequisite/Corequisite:** Introduction to Anatomical Sciences
 - **Program & Level:** Doctor of Medicine (M.D.)
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Course Coordinator Information

- **Academic Rank:** Assistant Professor
 - **Specialty:** Anatomical Sciences
 - **Workplace:** School of Medicine
 - **Phone:** —
 - **Email:** mehrdad.ghorbanlou@gmail.com
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General Course Description

This course is part of the basic medical curriculum and provides instruction in the principles, core concepts, and foundational knowledge of the structure (macroscopic and microscopic),

anatomical relations, and embryologic development of the special sensory systems: **vision, hearing, and balance.**

The depth of content is designed to prepare students to understand and analyze disorders related to these systems.

The course also includes surface anatomy and radiologic anatomy of structures associated with special senses.

This course does *not* include:

- Advanced specialized details of sensory disorders
 - Pharmacology and pathophysiology of sensory system diseases
 - Diagnostic and therapeutic methodologies
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Overall Competency Objective

Familiarity with surface, radiologic, and topographic anatomy, embryology, and basic clinical correlations of the special senses, and recognition of disorders closely related to regional anatomy.

Specific Learning Objectives (Core Competencies)

A) Cognitive (Knowledge-Based) Objectives

By the end of the course, the student should be able to:

- Describe the macroscopic and microscopic anatomy of the eyeball and associated orbital structures.
 - Explain the vascular and neural supply of the eye and visual accessory structures.
 - Describe ocular movements and their neuromuscular control.
 - Describe the macroscopic and microscopic structure of the ear.
 - Explain the blood supply and innervation of the ear.
 - Describe the embryologic development of the eye and ear.
 - Explain congenital anomalies of the visual and auditory systems.
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B) Psychomotor (Skills-Based) Objectives

By the end of this course, the learner should be able to:

- Identify the anatomical structures of the eye and ear on cadavers and anatomical models.
 - Identify structures in the orbit using models and cadaveric material.
 - Locate important surface anatomical landmarks of the eye and auricle.
 - Identify orbital and ear structures in radiologic sectional anatomy.
 - Demonstrate ocular movements in a living subject and relate them to neuromuscular pathways.
 - Recognize the histological structure of the eye and ear under a microscope.
 - Perform a basic fundoscopy using an ophthalmoscope.
 - Perform basic otoscopic examination to visualize the tympanic membrane.
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C) Affective (Professionalism and Attitudinal) Objectives

Throughout the course, the student is expected to:

- Respect human cadavers and uphold ethical conduct.
 - Demonstrate professionalism, discipline, proper appearance, and respectful communication.
 - Maintain integrity in all assessments and assignments.
 - Participate meaningfully in group activities and teamwork.
 - Demonstrate responsibility, reliability, constructive feedback, and self-directed learning.
 - Use university resources respectfully and avoid waste.
 - Communicate effectively using appropriate verbal and non-verbal (body language) techniques.
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Educational Approach

Virtual In-Person Blended

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Teaching–Learning Methods Based on Approach

Virtual

- Flipped classroom
- Digital game-based learning
- **Interactive e-content learning**
- Problem-Based Learning (PBL)
- Other: —

In-Person

- **Interactive lecture (Q&A, quizzes, group discussion)**
- **Small-group discussion**
- Team-Based Learning (TBL)
- Problem-based learning
- Scenario-based learning
- Peer teaching
- Game-based learning
- Other: —

Blended Strategy

A combination of virtual and in-person instructional methods (*not further specified in the file*).

Educational Tools and Resources

- **Whiteboard**
- **Skill-lab educational materials**
- Additional: cadaver, anatomical models, etc.

Course Schedule – Special Senses Anatomy

Theoretical Sessions: Tuesdays 10:00–12:00 (except Session 1: Saturday)

Practical Sessions: Wednesdays 08:00–16:00 (according to group schedule)

Session	Topic	Method	Date	Instructor
1	Orbit anatomy, fasciae, muscles, eyelids, lacrimal apparatus	Interactive lecture	24/08/1404 (Sat)	Dr. Ghorbanlou
2	<i>(Quiz from previous session)</i> Eyeball, vessels and nerves of orbit	Interactive lecture	27/08/1404	Dr. Ghorbanlou
3	<i>(Quiz)</i> Histology of the eye	Interactive lecture	04/09/1404	Dr. Ghorbanlou
4	Midterm exam + External/Middle ear anatomy	Interactive lecture	11/09/1404	Dr. Ghorbanlou
5	<i>(Quiz)</i> Internal ear anatomy, vascular and neural supply	Interactive lecture	18/09/1404	Dr. Ghorbanlou
6	Practical eye anatomy + histology	Hands-on	19/09/1404	Dr. Ghorbanlou
7	<i>(Quiz)</i> Histology of the ear	Interactive lecture	25/09/1404	Dr. Ghorbanlou
8	Practical ear anatomy	Hands-on	26/09/1404	Dr. Ghorbanlou
9	<i>(Quiz)</i> Embryology of the eye and ear	Interactive lecture	02/10/1404	Dr. Ghorbanlou
10	<i>(Quiz)</i> Visual and auditory pathways	Interactive lecture	09/10/1404	Dr. Ghorbanlou
—	Basic–clinical integration	—	—	—
—	Practical exam (Special Senses)	—	To be announced	—

Session Topic	Method	Date	Instructor
11 Final written exam	—	According to university schedule	—

Student Responsibilities

- Regular attendance
- Completion of assignments on time
- Respectful conduct in dissection hall
- Wearing appropriate white coat
- Careful use of anatomical materials
- Active engagement in learning

Assignments Expected from Students

- Responding to classroom questions

Attendance Regulations

- One excused absence only (pending approval).
- More than one absence **or missing an exam** results in a score of **zero**.

Student Assessment

Assessment methods include:

- Classroom questioning
- Station-based practical exam in dissection hall

Scoring Breakdown

Component	Value
Class participation questions	Up to 1 point
Regular quizzes (6 quizzes × 1 point each)	6 points
Midterm exam	4 points
Final theoretical exam	10 points
Final practical exam	20 points

Exam Format

- Short answer ✓
 - Multiple-choice ✓
 - Matching ✗
 - True/False ✗
 - Essay ✗
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Course References

Primary Textbooks

- *Clinical Anatomy – R. Snell*
- *Langman's Medical Embryology*
- *Gray's Anatomy for Students*
- *Junqueira's Basic Histology*

Additional Recommended Reading

- *Clinical Anatomy of Head and Neck – Dr. Akbari, Dr. Kashani, Dr. Hedayatpour (Jafari Publishing)*
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