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| **Course title** | **Code** | **Semester** | **Type of course** | **Course volume (Contact hours)** | **ECTS** |
| **Sensory Organs and Endocrine System** | **MED**  **1008** | **II** | **Mandatory** | 96 | **5** |
| **Faculty, the educational program and level of education** | * School of Medicine and Health Sciences * Higher Medical Educational Program “Medicine” * One cycle 6-year | | | | |

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| **Learning Course Content** |
| * **Embryology** Development of Head and Neck * **Histology** Histology of endocrine organs, Lab: Histology of endocrine organs * **Anatomy** Olfactory nerve (I), Optic nerve (II), Oculomotor nerve (III) and Trochlear nerve (IV), Trigeminal nerve (V), Abducens nerve(VI), Facial nerve (VII) and Vestibulocochlear nerve (VIII).Glossopharyngeal nerve (IX) and Vagus nerve(X), Accessory nerve (XI), Hypoglossal nerve (XII). * **Cadaver LAB** Sensory and endocrıne organs * **Physiology** Introduction to endocrine system, Thyroid and parathyroid glands and hormones. * **Biochemistry** Releasing hormones (releasing factors) of hypothalamus.Inhibiting hormones of hypothalmus. * **Medical Biology/Medical Genetics** Gene gene interaction (Complementary, poligenic interactions, epistasis, pleyotropy etc.) * **Biophysics** Light perception by living organism. The optical system of the eye. * **Immunology** Introduction to Immunity, Innate Immunity, Active and Passive Immunity * **PBL** * **Embryology** Development of Eye * **Histology** Histology of Eye, Histology of Ear * **Anatomy** Organ of Hearing and Equilibrium (Organumvestibulocochleare); Organ of vision(Organum visus); Organ of Taste, Organ of Smell, Organ of Touch (skin) * **Cadaver LAB** Sensory and endocrıne organs * **Rad.Anatomy** * **Physiology** Organization of the hypothalamo -hypophyseal system, Hormones of pituitary gland, Adrenal hormones and stress response: * **Biochemistry** Oxytocin and Vasopressin . Melatonin. Steroid hormones. Synthesis of steroid hormones. Thyroid hormones. Catecholamines . * **Biophysics** Audio perception by living organisms. Treatment of hearing loss and implants; * **Immunology** Organisation of immune system: cells, tissue and organs of Immune system; B and T cell development and differentiation. * **Embryology** Development of Ear * **Histology** Histology of Skin and adnex, Lab: Histology of Ear and Eye * **Anatomy** Endocrine Glands:Pituitary (hypophysis) gland and pineal gland. Thyroid gland and parathyroid gland, Adrenal gland, Tymus and gonads. * **Cadaver LAB** Sensory and endocrıne organs * **Physiology** Vision, hearing and vestibular system; Lab: Peripheral Vision, Blind Spot, and Determining the Near Point of Accommodation. * **Biochemistry** Signal reception and transduction at the target tissue. Receptors - Intracellular Receptors, * **Medical Biology/Medical Genetics** Gene gene interaction (Complementary, poligenic interactions, epistasis, pleyotropy etc.) * **Immunology** Adaptive Immunity: Antigen; TCR, BCR and MHC.; Antigen Processing and Presentation; Neuro-immune-endocrine regulation; * **Clinical Visits** Collection of clinical cases * **Embryology** Development of neuroendocrine and endocrine glands * **Histology** Lab: Histology of Skin and adnex * **Rad.Anatomy** * **Physiology** Sense of taste & olfaction; * **Biochemistry** Plasma membrane receptors.Glucagon. Insulin and the insulin receptor. * **Immunology** .Antibody Structure; Antibody classes and function; * **Clinical Visits** Collection of clinical cases * **PBL** * **PPT** * **Review Hs** |
| **Textbooks and Materials** |
| * Anatomy * Human Anatomy, author: Elaine N. Marieb; Patricia Brady Wilhelm;Jon B. Mallatt * 8th ed 2017; * Sobotta Atlas of Human Anatomy.Tables of Muscles, Joints,and NervesEd: F.Paulsen;J.Waschke. Urban & Fischer. 16st. edition; 2018. * Rad. Anatomy * Learning Radiology: Recognizing the Basics (With Student Consult Online Access), William Herring. Saunders; 2nd ed. 2011; * Biochemistry * Lehninger Principles of Biochemistry- David L. Nelson and Michael M. Cox (sevenths edition 2017) * Lippincott illustrated reviews:Biochemistry- Ferrier, Denise R. 7th ed.2017 * Embryology * The Developing Human Clinically Oriented Embryology - Keith Moore L; Persaud T.V.N;Mark G Torchia.. Elsevier Saunders. 11th ed. 2020; * Biophysics * Tamar Sanikidze. Biological and Medical Physics V-1/ V-2. 2016 * Molecular Biology/Genetics * Molecular Biology of the Cell - Bruce Alberts, Alexander Johnson, Julian Levis, Martin Raff Keith. Roberts Peter Walter -, Garland Science Taylor & Francis Group, 7th ed. 2022;; * Evidence Based Medicine-EBM * The Philosophy of Evidence-Based Medicine- Jeremy, Howick. 2011 * Histology * Junqueira's Basic Histology : Text and Atlas- Anthony L. Mescher 16th Ed. 2021; * Physiology * guyton and hall textbook of medical physiology-. John E.Hall,14th.ed. 2021; * Immunology * Basic Immunology. Abbas, K. Abul. 6th ed.2020. * Lehninger principles of biochemistry, David L.Nelson;Michael M.Cox, Freeman, 2013, MacMillan. Higher education, International edition, VI Edition. * Mark's basic medical biochemistry: a clinical approach (2012) * Physics in Biology and Medicine, Pual Davidovits. Academic Press. Elsevier, 2013 * Problem-Based Physiology 1st Edition Robert G. Carroll (2009) |