

**T.C.**

**LOKMAN HEKIM UNIVERSITY**

**FACULTY OF DENTISTRY**

**PHASE – II**

**2024 – 2025 EDUCATION GUIDE**

# T.C.

**LOKMAN HEKIM UNIVERSITY FACULTY OF DENTISTRY**

**PHASE II COURSES and ECTS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CODE** | **COMPULSORY COURSES** | **T** | **P** | **ECTS** |  |  |
| **132201** | CIRCULATION AND RESPIRATORY SYSTEMS | **42** | **4** | **4** | **COMMITTEE** |  |
| **132202** | DIGESTIVE SYSTEM | **36** | **1** | **4** | **COMMITTEE** |  |
| **132203** | UROGENITAL SYSTEM | ***19*** | ***2*** | ***2*** | **COMMITTEE** |  |
| **132204** | NEUROENDOCRINE SYSTEM | **65** | **11** | **6** | **COMMITTEE** |  |
| **132205** | THE BASIC OF DISEASES | **54** | **1** | **5** | **COMMITTEE** |  |
| **132206** | PROSTHETIC DENTISTRY | **28** | **112** | **6** | **VOCATIONAL** | **ANNUAL** |
| **132207** | RESTORATIVE DENTISTRY | **27** | **108** | **5** | **VOCATIONAL** | **ANNUAL** |
| **132208** | ENDODONTICS | **14** | **14** | ***3*** | **VOCATIONAL** | **SPRING** |
| **132209** | MATERIALS IN DENTISTRY AND BIOCOMPATIBILITY | **29** | **0** | **3** | **VOCATIONAL** | **ANNUAL** |
| **132210** | BIOSTATISTICS | **28** | **0** | **3** | **VOCATIONAL** | **AUTUMN** |
|  | **TOTAL ECTS COMPULSORY** |  |  | **41** |  |  |
| **CODE** | **ELECTIVE COURSES** | **T** | **P** | **ECTS** |  |  |
|  | University Elective 1 |  |  | **3** |  | **AUTUMN** |
|  | University Elective 2 |  |  | **3** |  | **SPRING** |
|  | University Elective 3 |  |  | **3** |  | **AUTUMN** |
|  | University Elective 4 |  |  | **3** |  | **SPRING** |
| **132211** | DENTISTRY AND AESTHETICS | **14** | **0** | **3** | **FACULTY ELECTIVE** | **AUTUMN** |
| **132212** | INFECTION CONTROL IN DENTISTRY | **14** | **0** | **3** | **FACULTY ELECTIVE** | **SPRING** |
|  | **TOTAL ECTS TO BE COLLECTED AS ELECTIVES** |  |  | **19** |  |  |
|  | **TOTAL ECTS TO BE COLLECTED IN PHASE II** |  |  | **60** |  |  |

**PHASE II OBJECTIVES AND LEARNING OUTCOMES**

**Aim:**

In this phase, the main subjects are the organ systems of the human body. The students will learn the anatomy, development, histology, physiology, biochemistry and biology of the organs. They will also get the basic theoretical information about the microbial agents settled in these systems and will form the basis of clinical courses by making practical applications. It is aimed to enable them to recognize the infectious and non-infectious diseases of the systems and to have basic knowledge about diseases. This phase is also providing students to improve the ability of biostatistical analysis and reasoning on the data related to clinical applications. In addition, in dentistry classes, the mouth, teeth, jaws and surrounding tissues are examined. It is aimed for students to define the anatomy, physiology and morphology and to have sufficient theoretical and practical knowledge and manual practice before clinical patient care.

**Learning Objectives:**

1. Explains the anatomy, embryology, histology and physiology of the structures that make up the respiratory system and circulatory system.
2. Explains the embryological development, histological and anatomical structures, physiological properties, biochemistry and the relationships of these systems with each other, respectively, of the cells, tissues and organs that make up the digestive system.
3. Describes the anatomical, histological, embryological and physiological features of the urogenital system.
4. Defines the anatomical, histological and embryological structures, physiological and biochemical properties of the neuroendocrine system.
5. Defines basic biochemical, biological, pharmacological, microbiological and pathological information for clinical and laboratory evaluations of diseases.

## CIRCULATORY AND RESPIRATORY SYSTEMS COMMITTEE

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSES** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| 132201-01 *HISTOLOGY AND EMBRYOLOGY* | 13 | - | 13 |
| 132201-02 *ANATOMY* | 10 | 4 | 14 |
| 132201-03 *PHYSIOLOGY* | 19 | - | 19 |
| **TOTAL** | **42** | **4** | **46** |

**AIMS AND LEARNING OBJECTIVES OF THE COMMITTEE**

**Aim:**

### The aim of this course is to teach the anatomy, physiology, histology and embryology of the circulatory and respiratory systems.

**Learning Objectives:**

Student who successfully completes this course;

**1.** Counts which organs of the circulatory and respiratory system are

formed.

**2.** Explains the anatomical structure of the organs.

**3.** Explains the cell structure of organs.

**4.** Uses the models to be used in the application courses.

**5.** Gains knowledge about the mechanisms of action and interactions

of the drugs used as a dentist.

**6.** Counts the duties of the blood and the working principle of the

heart muscle.

**7.** Defines the immune system.

**8.** Identifies antigen, antibody and vaccines.

**9.** Evaluates patients who use drugs related to cardiovascular and

respiratory system in terms of dental treatment.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **HISTOLOGY AND EMBRYOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Blood formation, stem cells and peripheral blood cells | Theoretical | 3 |
| Immune cells, primary and secondary lymphoid organs | Theoretical | 3 |
| Development of the heart and blood vessels | Theoretical | 2 |
| Fetal circulation | Theoretical | 1 |
| Cardiovascular histology | Theoretical | 2 |
| Development and histology of the respiratory system | Theoretical | 2 |
| **ANATOMY** | | |
| **Topic** | **Type** | **Time** |
| Nose and paranasal sinuses | Theoretical | 2 |
| Larynx | Theoretical | 2 |
| Trachea and lungs | Theoretical | 1 |
| Respiratory system anatomy | Practical | 2 |
| Heart, pericardium and mediastinum | Theoretical | 3 |
| Large vessels - Systemic circulation, pulmonary circulation, fetal circulation, neonatal circulation | Theoretical | 1 |
| Limphatic system | Theoretical | 1 |
| Circulatory system anatomy | Practical | 2 |
| **PHYSIOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Function, physical and chemical properties of blood | Theoretical | 2 |
| Erythrocyte and leukocyte functions | Theoretical | 2 |
| Functions of platelets, coagulation and anticoagulant mechanisms | Theoretical | 2 |
| Blood groups, transfusion reactions | Theoretical | 1 |
| Physiological features of the heart muscle | Theoretical | 2 |
| Pressure-volume relationship in the heart | Theoretical | 1 |
| Regulation of arterial pressure | Theoretical | 2 |
| Shock | Theoretical | 1 |
| Introduction to respiratory physiology and respiratory mechanics | Theoretical | 2 |
| Lung volume and capacity | Theoretical | 1 |
| Ventilation and gas exchange in the lung | Theoretical | 2 |
| Regulation of breathing | Theoretical | 1 |

## DIGESTIVE SYSTEM COMMITTEE

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSES** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| 132202-01 *HISTOLOGY AND EMBRYOLOGY* | 6 | 0 | 6 |
| 132202-02 *ANATOMY* | 9 | 2 | 11 |
| 132202-03 *PHYSIOLOGY* | 3 | 0 | 3 |
| 132202-04 *BIOCHEMISTRY* | 18 | 0 | 18 |
| **TOTAL** | **36** | **2** | **38** |

**AIMS AND LEARNING OBJECTIVES OF THE COMMITTEE**

**Aim:**

The aim of this course is to learn the anatomy, histology, physiology, biochemistry of the digestive system and the drugs used in the gastrointestinal system.

### Learning Objectives:

Student who successfully completes this course;

**1.** Gains knowledge about the digestive system

**2.** Explains the development of the digestive system and the histology of the

structures that make up these systems. They have the opportunity to analyze

this information themselves in the laboratory environment.

**3.** Shows the physiology of chewing swallowing, the motility, secretion,

digestion, absorption function of the gastrointestinal tract.

**4.** Compares the biochemistry of carbohydrate, lipid, amino acid, nucleotide,

heme metabolism.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **HISTOLOGY AND EMBRYOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Development of the digestive system | Theoretical | 2 |
| Histology of the digestive system | Theoretical | 2 |
| Liver, gallbladder, pancreas | Theoretical | 2 |
| **ANATOMY** | | |
| **Topic** | **Type** | **Time** |
| Anatomy of the anterior and lateral abdominal wall and peritoneum | Theoretical | 1 |
| Pharynx, esophagus and stomach | Theoretical | 2 |
| Small and large intestine | Theoretical | 2 |
| Liver and biliary tract | Theoretical | 1 |
| Pancreas and spleen | Theoretical | 1 |
| Anatomy of the posterior abdominal wall | Theoretical | 1 |
| Vessels and nerves of the digestive system | Theoretical | 1 |
| Digestive system anatomy | Practical | 2 |
| **PHYSIOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Gastrointestinal motility | Theoretical | 1 |
| Secretory function of the gastrointestinal tract | Theoretical | 1 |
| Gastrointestinal digestion and absorption | Theoretical | 1 |
| **MEDICAL BIOCHEMISTRY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to metabolism | Theoretical | 1 |
| Carbohydrate metabolism | Theoretical | 6 |
| Lipid metabolism | Theoretical | 5 |
| Amino acid and nitrogen metabolism | Theoretical | 5 |
| Hem metabolism | Theoretical | 1 |

## UROGENITAL SYSTEM COMMITTEE

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSES** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| 132203-01 *HISTOLOGY AND EMBRYOLOGY* | 8 | 0 | 8 |
| 132203-02 *ANATOMY* | 6 | 4 | 10 |
| 1322003-03 *PHYSIOLOGY* | 5 | 0 | 5 |
| **TOTAL** | **19** | **4** | **23** |

**AIMS AND LEARNING OBJECTIVES OF THE COMMITTEE**

**Aim:**

The aim of this course is to have information about the shape of the urogenital form and

about it.

**Learning Objectives:**

**1.** Gains information about the anatomy of the urogenital system.

**2.** Lists the structural features of cells, tissues and organs of the urogenital system and their roles in the whole organism. **3.** Will be able to explain renal circulation, excretory physiology and acid-base balance. **4.** Learns the basic concepts and physiological mechanisms in the urogenital system.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **HISTOLOGY AND EMBRYOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Development of the urogential system | Theoretical | 2 |
| Histology of the urogenital system | Theoretical | 2 |
| Histology of the male genital tract | Theoretical | 2 |
| Histology of the female genital tract | Theoretical | 2 |
| **PHYSIOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to excretory physiology and renal circulation | Theoretical | 1 |
| Concept of reabsorption, secretion and clearance in renal tubules | Theoretical | 1 |
| Autoregulation of glomerular filtration rate | Theoretical | 1 |
| Physiology of male genital system hormones | Theoretical | 1 |
| Physiology of female genital system hormones | Theoretical | 1 |
| **ANATOMY** | | |
| **Topic** | **Type** | **Time** |
| Kidney and ureter | Theoretical + Practical | 2+1 |
| Bladder and urethra | Theoretical | 1 |
| Pelvic diaphragm and perineum | Theoretical + Practical | 1+1 |
| Female genital organs | Theoretical | 1 |
| Male genital organs | Theoretical | 1 |

## NEUROENDOCRINE SYSTEM COMMITTEE

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSES** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| 132204-01 *HISTOLOGY AND EMBRIOLOGY* | 12 |  | 12 |
| 132204-02 *ANATOMY* | 29 | 9 | 38 |
| 132204-03 *PHYSIOLOGY* | 18 |  | 18 |
| 132204-04 *BIOCHEMISTRY* | 6 |  | 6 |
| **TOTAL** | **65** | **9** | **74** |

**AIMS AND LEARNING OBJECTIVES OF THE COMMITTEE**

**Aim:**

The aim of this course is to give information about the structures of the neuroendocrine

system and the working mechanism of these structures.

**Learning Objectives:**

**1.** Explains the anatomy of the neuroendocrine system by associating it with its

functions.

**2.** Explains the general properties of hormones and the biochemistry of signal

transmission mechanisms.

**3.** Explains the embryological development of the nervous system and the

structures that constitute the endocrine system.

**4.** Defines the relationship between the nervous system and the physiology of

sensory.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **HISTOLOGY AND EMBRYOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Development of the central nervous system | Theoretical | 2 |
| Histology of the nervous system | Theoretical | 2 |
| Development and Histology of the Eye | Theoretical | 2 |
| Development and histology of the ear | Theoretical | 2 |
| Development and histology of the endocrine system | Theoretical | 4 |

|  |  |  |
| --- | --- | --- |
| **ANATOMY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to the central nervous system | Theoretical | 1 |
| Medulla spinalis | Theoretical + Practical | 1+1 |
| Ascending roads | Theoretical | 1 |
| Descending roads | Theoretical | 1 |
| Medulla oblangata and pons | Theoretical + Practical | 1+2 |
| Mesencephalon and cerebellum | Theoretical | 1 |
| Cranial nerves (I-VI) (branches and lesions of n. trigeminus) | Theoretical + Practical | 2+2 |
| Cranial nerves (VII-XII) (branches and lesions of n. facialis) | Theoretical + Practical | 2+2 |
| V. cranial nerve and lesions | Theoretical | 1 |
| VII. Cranial nerve and lesions | Theoretical | 1 |
| Autonomic Nervous System: Sympathetic System | Theoretical | 1 |
| Autonomic Nervous System: Parasympathetic System | Theoretical | 1 |
| Diencephalon | Theoretical + Practical | 1+1 |
| Telencephalon Cortex cerebri and Brodmann areas | Theoretical | 2 |
| White matter and basal nuclei | Theoretical | 1 |
| Brain membranes, dura sinuses, brain ventricles and CSF circulation | Theoretical + Practical | 2+1 |
| Central nervous system arteries | Theoretical | 1 |
| Limbic system Sense of smell and taste | Theoretical | 1 |
| Orbit and its contents, eye and visual pathways | Theoretical + Practical | 2+2 |
| Ear, auditory pathway and balance pathway | Theoretical | 2 |
| Glandula hypophysialis and pinealis | Theoretical | 1 |
| Glandula thyroidea and parathyroidea, thymus and glandula suprarenalis | Theoretical | 1 |
| Skin and appendages - Breast | Theoretical | 1 |
| **PHYSIOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Organization of the nervous system | Theoretical | 2 |
| Sensory receptors | Theoretical | 2 |
| Somatic senses | Theoretical | 2 |
| Special senses | Theoretical | 2 |
| Cerebral cortex | Theoretical | 1 |
| Control of posture and movement | Theoretical | 1 |
| Cerebellum and basal ganglia | Theoretical | 1 |
| Limbic system and hypothalamus | Theoretical | 1 |
| General information about hormones | Theoretical | 1 |
| Pituitary and hypothalamic hormones | Theoretical | 1 |
| Thyroid hormones physiology | Theoretical | 1 |
| Hormonal regulation of calcium metabolism | Theoretical | 1 |
| Endocrine pancreas | Theoretical | 1 |
| Adrenal cortex and medulla hormones | Theoretical | 1 |
| **BIOCHEMISTRY** | | |
| **Topic** | **Type** | **Time** |
| General properties of hormones and signaling mechanisms | Theoretical | 1 |
| Biochemistry of hypothalamic and pituitary hormones | Theoretical | 1 |
| Biochemistry of thyroid hormones | Theoretical | 1 |
| Biochemistry of pancreatic hormones | Theoretical | 1 |
| Biochemistry of hormones involved in Ca-P metabolism | Theoretical | 1 |
| Overview of adrenal medulla and cortex biochemistry | Theoretical | 1 |

# THE BASIS OF DISEASES

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSES** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| 132205-01 *BIOCHEMISTRY* | 9 |  |  |
| 132205-02 *MICROBİOLOGY* | 17 | 1 |  |
| 132205-03  *PHARMACOLOGY* | 11 |  |  |
| 132205-04  *PATHOLOGY* | 11 |  |  |
| 132205-05 *MEDICAL BIOLOGY* | 6 |  |  |
| **TOTAL** | **54** | **1** |  |

**AIMS AND LEARNING OBJECTIVES OF THE COMMITTEE**

**Aim:**

The aim of this course; To give general information about the basic mechanisms of the disease formation process and the basics of pharmacology and microbiology.

**Learning Objectives:**

**1.** Gains knowledge about basic pathology concepts such as cell damage,

necrosis, apoptosis.

**2.** List the congenital and acquired immune system components.

**3.** Gain knowledge about basic pharmacological concepts such as distribution,

metabolism and elimination of drugs.

**4.** Defines bacterial, viral, parasitic and fungal pathogens with medical importance

and disease-making properties of pathogens.

**5.** Gains knowledge about neoplasia and introduction to immunology.

**6.** Describes normal immune response, mechanisms of immunological reactions,

hypersensitivity reactions.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **BIOCHEMISTRY** | | |
| **Topic** | **Type** | **Time** |
| Approach to metabolic diseases | Theoretical | 2 |
| Mitochondria: Function and diseases | Theoretical | 2 |
| Macromolecules in the identification of diseases | Theoretical | 2 |
| The importance of free radicals in diseases | Theoretical | 2 |
| Evaluation of clinical and blood parameters | Theoretical | 1 |
| **MICROBIOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to microbiology and classification | Theoretical | 1 |
| Bacterial proliferation and metabolism | Theoretical+Practical | 1+1 |
| Genetics of bacteria and extracrosomal formations | Theoretical | 1 |
| Structure and replication of viruses | Theoretical | 1 |
| Introduction to mycology, general characteristics and classification of fungi | Theoretical | 1 |
| Introduction to parasitology, general characteristics and classification of parasites | Theoretical | 1 |
| Overview of the immune system, Congenital and Acquired Immunity | Theoretical | 1 |
| Cytokines | Theoretical | 1 |
| Lymphocytes | Theoretical | 1 |
| Neutrophils, Acute Inflammation | Theoretical | 1 |
| Eosinophil, Basophil, Mast Cell, Monocyte-Macrophage, Dendritic Cell | Theoretical | 1 |
| Antigen | Theoretical | 1 |
| Antibody | Theoretical | 1 |
| Complement System | Theoretical | 1 |
| MHC Molecules Structure and Function, Antigen Presentation | Theoretical | 1 |
| Vaccines | Theoretical | 1 |
| Parasite-host relationship, disease-causing mechanisms of microorganisms | Theoretical | 1 |
| Introduction to microbiology and classification | Theoretical | 1 |
| Bacterial proliferation and metabolism | Theoretical | 1 |
| **MEDICAL BIOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Apoptosis | Theoretical | 1 |
| Extracellular matrix | Theoretical | 2 |
| Stem cells | Theoretical | 1 |
| Chromosome structure and classification | Theoretical | 1 |
| Chromosomal abnormalities | Theoretical | 1 |
| **PHARMACOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to Pharmacology | Theoretical | 1 |
| Pharmaceutical forms of drugs and drug administration | Theoretical | 2 |
| Absorption and distribution of drugs | Theoretical | 1 |
| Biotransformation and elimination of drugs | Theoretical | 1 |
| Mechanisms of action of drugs and drug-receptors relationship | Theoretical | 2 |
| Factors that change the effect of drugs | Theoretical | 1 |
| Drug interactions: Drug interactions at the pharmacodynamic and pharmacokinetic level | Theoretical | 2 |
| Side effects of drugs | Theoretical | 1 |
| **PATHOLOGY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to pathology and pathological examination methods | Theoretical | 1 |
| Cellular adaptation, cell injury and intracellular deposits | Theoretical | 2 |
| Necrosis and apoptosis | Theoretical | 1 |
| Neoplasia: Definition, nomenclature, classification ,pathogenesis, | Theoretical | 2 |
| Carcinogenic agents and cell relationship, tumor immunity | Theoretical | 1 |
| Embolism, infarction, shock | Theoretical | 1 |
| Radiation injury, normal cell and tissue proliferation | Theoretical | 1 |
| Regeneration and wound healing | Theoretical | 1 |

**BIOSTATISTICS**

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| BIOSTATISTICS | **28** | - |  |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:**

The aim of this course is; to teach basic statistical concepts and methods to students by applications, to provide them understanding the statistical analysis used in the literatüre related to their own fields.

**Learning Objectives:**

**1.** Know the basic concepts of statistics/biostatistics and have the

theoretical knowledge.

**2.** Determine the appropriate sampling methods and research

planning.

**3.** Calculates the appropriate descriptive statistics according to the

type of variable.

**4.** Decide on the appropriate statistical tests according to hypothesis.

**5.** Analyze and interpret the data related to the field.

**6.** Interpret the statistical results in the literatüre about their own field.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **BIOSTATISTICS** | | |
| **Topic** | **Type** | **Time** |
| Analysis of association, regression and correlation analysis | Theoretical | 2 |
| Descriptive statistics | Theoretical | 2 |
| Estimation, point and interval estimation (confidence intervals) | Theoretical | 2 |
| Graphs with one variable | Theoretical | 2 |
| Hypothesis testing, one sample tests | Theoretical | 2 |
| Introduction to statistics and biostatistics, definitions | Theoretical | 2 |
| Normal distribution | Theoretical | 2 |
| Practice | Theoretical | 2 |
| Tables and graphs with two or more variables | Theoretical | 2 |
| Tables with one variable | Theoretical | 2 |
| Three or more sample tests | Theoretical | 2 |
| Two sample tests | Theoretical | 2 |

# MATERIALS IN DENTISTRY AND BIOCOMPATIBILITY

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| MATERIALS IN DENTISTRY AND BIOCOMPATIBILITY | **29** | - | 29 |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:** The aim of this course is to introduce the materials used in dentistry and to give

information about biocompatibility.

**Learning Objectives:**

**1.** Gain information about materials used in prosthetic dentistry.

**2.** Gain information about materials used in restorative dentistry.

**3**. Gain information about materials used in endodontics.

**4.** Gain information about the materials used in pedodontics.

**5.** Gain information about materials used in oral and maxillofacial radiology.

**6.** Gain information about materials used in oral and maxillofacial surgery.

**7.** Gain information about the materials used in periodontology.

**8.** Gain information about the materials used in orthodontics.

**9.** Define biocompatibility.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **MATERIALS DENTISTRY AND BIOCOMPABILITY** | | |
| **Topic** | **Type** | **Time** |
| Introduction to materials | Theoretical | 2 |
| Polymer chemistry | Theoretical | 2 |
| Materials used in prosthetic dentistry | Theoretical | 2 |
| Materials used in restorative dentistry | Theoretical | 2 |
| Materials used in endodontics | Theoretical | 2 |
| Materials used in pedodontics | Theoretical | 2 |
| Materials used in oral and maxillofacial radiology | Theoretical | 2 |
| Materials used in oral and maxillofacial surgery | Theoretical | 2 |
| Materials used in periodontology | Theoretical | 2 |
| Materials used in orthodontics | Theoretical | 2 |
| Biocompatibility | Theoretical | 2 |

# RESTORATIVE DENTISTRY

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| RESTORATIVE DENTISTRY | **27** | **108** |  |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:** The aim of this course is to introduce students to dental hard tissues, dental caries, decay development processes, etiology and diagnostic methods, as well as restorative techniques and materials for the repair of dental tissue

losses.

**Learning Objectives:**

1. Explains the concept of conservative dentistry, use its terminology

and define the tools used.

2. Defines tooth decay, its history, theories and etiology, explains the

role of microorganisms in caries formation.

3. Understands and explains direct esthetic restoration, anterior and

posterior resin composite applications, glass ionomers, metal inlay

restorations and minimally invasive approaches.

4. Defines enamel, dentin, cementum structure and caries.

**TOPICS**

|  |  |  |
| --- | --- | --- |
| **RESTORATİVE DENTISTRY** | | |
| **Topic** | **Type** | **Time** |
| Presentation of tools and materials used in Conservative Dental Treatment | Theoretical+  Practical | 1+4 |
| General Cavity Preparation Rules and Class I Cavities | Theoretical | 1 |
| Presentation of tools and materials used in Conservative Dental Treatment - I. Class Cavity Studies | Practical | 4 |
| General Cavity Preparation Rules and Class I Cavities | Theoretical | 2 |
| I. Class Cavity Studies | Practical | 4 |
| II. Class Cavity Preparation Rules | Theoretical | 2 |
| II. Class Cavity Studies | Practical | 4 |
| V. Class Cavity Preparation Rules | Theoretical | 2 |
| II., V. and VI in contact teeth. Class Cavity Studies | Practical | 4 |
| Zincophosphate Cement Applications | Theoretical+  Practical | 1+4 |
| Amalgam applications | Theoretical+  Practical | 3+4 |
| Techniques for creating contact in restorations | Theoretical | 1 |
| Amalgam Polishing | Theoretical | 1 |
| Complex Cavity Preparation Rules | Theoretical | 2 |
| Amalgam applications in permanent teeth | Practical | 4 |
| Complex Amalgam Restorations | Theoretical | 2 |
| Conservative Cavity Preparation Rules | Theoretical | 1 |
| Amalgam applications in complex cavities | Practical | 1 |
| Pin restorations | Theoretical | 1 |
| Pin restoration applications | Practical | 4 |
| Cast inlay restorations | Theoretical +Practical | 1+1 |
| Conservative cavities | Practical | 2 |
| Secondary restoration techniques | Theoretical | 1 |
| Dental caries | Theoretical | 1 |
| Amalgam applications in contact teeth | Practical | 2 |
| Saliva | Theoretical | 1 |
| Amalgam Repair | Theoretical | 2 |
| Discussion | Theoretical | 1 |
| Recompense applications | Practical | 1 |

**PROSTHETIC DENTISTRY**

|  |  |  |  |
| --- | --- | --- | --- |
| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| PROSTHETIC DENTISTRY | **28** | **112** |  |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:** The aim of this course is to define indication of fixed dentures, tissue supported total dentures, and teeth and tissue supported partial dentures; to apply all the manufacturing steps.

**Learning Objectives:**

# 1. Count the indications of fixed and removable dentures.

# 2. Define application area of fixed prosthodontics and count the

# manufacturing steps.

# 3. Define application area of tissue supported total dentures and count

# the manufacturing steps.

# 4. Define application area of teeth and tissue supported partial dentures

# and count the manufacturing steps.

**TOPICS**

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| **PROSTHETIC DENTISTRY** | | |
| **Topic** | **Type** | **Time** |
| Principaples of anterior and posterior teeth preparation | Theoretical | 1 |
| Preparing working models for fixed dentures (direkt technic) | Practical | 4 |
| Teeth preparation principles for full crown and veneer crown | Theoretical | 1 |
| Preparing working models for fixed dentures (indirekt technic) | Practical | 4 |
| Crown and bridge (indications and contrindications/advantages and disadvantages) | Theoretical | 1 |
| Phantom teeth preparation | Practical | 4 |
| Evaluating abutment teeth for fixed dentures and biomechanical principals | Theoretical | 1 |
| Acrylic permanent crown | Practical | 4 |
| Challenges in fixed prosthodontics chosing the abutment teeth | Theoretical | 1 |
| Full crown wax modelling-cast-polishing | Practical | 4 |
| Working models, day preparing and articulating in fixed dentures | Theoretical | 1 |
| Teeth preparation for metal fused porcelain crown, preparing working models | Practical | 4 |
| Pontic design, connectors and pontic-soft tissue relation | Theoretical | 1 |
| Preparing metal core framework for metal fused porcelain crowns | Practical | 4 |
| The effect of cutting devices on enameli dentin, and the pulp of the teeth during teeth preparation | Theoretical | 1 |
| Preparing porcelain structure for metal fused porcelain crowns | Practical | 4 |
| Relation of crown margins and gingiva | Theoretical | 1 |
| Teeth preparation principles for all ceramic crowns | Practical | 4 |
| Components and types of post-cores | Theoretical | 1 |
| Partial crowns (3/4, 4/5, 7/8) | Practical | 4 |
| Classification of dental ceramics | Theoretical | 1 |
| technics of inlay and onlay, preparation and wax modelling | Practical | 4 |
| Indications and application of metal fused porcelain restoration | Theoretical | 1 |
| Telescopic crown | Practical | 4 |
| Preparing the abutment teeth for metal fused porcelain restorations and metal framework design | Theoretical | 1 |
| Laminate veneers | Practical | 4 |
| Laboratory steps of metal fused porcelain restorations | Theoretical | 1 |
| Post-core application | Practical | 4 |
| Previous steps before teeth alignment for total dentures (Anatomic borders, İmpression, Temporary plate, Wax rims, Articulating of working models) | Theoretical | 1 |
| Preparing working models, base and wax rims for tissue supported total dentures | Practical | 4 |
| Principles of anterior teeth alignment | Theoretical | 1 |
| Interocclusal records at tissue supported total dentures | Practical | 4 |
| Principles of posterior teeth alignment | Theoretical | 1 |
| Teeth alignment and wax modelling at tissue supported total dentures | Practical | 4 |
| Wax modelling, compressing molding, polishing | Theoretical | 1 |
| Compressing molding | Practical | 4 |
| Advanced polimerization technics for total dentures and polimerization failures | Theoretical | 1 |
| Acrylic resin application method at tissue supported total dentures | Practical | 4 |
| Biomechanical principals at removable partial dentures, base movements, fulcrum axis, control of the force on the supported tissues | Theoretical | 1 |
| Smooting and polishing of tissue supported total dentures | Practical | 4 |
| Components of removable partial dentures-rest and rest seats | Theoretical | 1 |
| Preparing working models for teeth and tissue supported removable partial dentures | Practical | 4 |
| Components of removable partial dentures-direct and indirect retainers | Theoretical | 1 |
| Bending direct retainers application | Practical | 4 |
| Components of removable partial dentures- Maxillary and mandibulary major connectors | Theoretical | 1 |
| Preparing working models, base, wax rims, and interocclusal records at teeth and tissue supported removable partial dentures | Practical | 4 |
| Components of removable partial dentures- minor connectors, base of the denture, artificial teeth | Theoretical | 1 |
| Teeth alignment at teeth and tissue supported removable partial dentures | Practical | 4 |
| Temporary plate, Wax rims, Teeth alignment at teeth and tissue supported removable partial dentures | Theoretical | 1 |
| Compressing molding and acrylic resin application at teeth and tissue supported removable partial dentures | Practical | 4 |
| Laboratory finishing steps of acrylic and metal partial dentures | Theoretical | 1 |
| Finishing and polishing of teeth and tissue supported removable partial dentures | Practical | 4 |
| Laboratory failures and its solutions at teeth and tissue supported removable partial dentures | Theoretical | 1 |
| Delivery of teeth and tissue supported removable partial dentures | Practical | 4 |
| Overview | Theoretical | 1 |
| Compenzation | Practical | 4 |

**ENDODONTICS**

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| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| ENDODONTICS | **14** | **14** | **28** |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:** Teaching students pulp anatomy and access cavity opening rules

**Learning Objectives:**

1. Recognize the materials to be used in endodontic treatment.

2. Knows pulp anatomy of upper and lower incisors, premolars and

molars.

3. Knows the rules of opening the access cavity in upper and lower

incisors, premolars and molars.

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| **ENDODONTICS** | | |
| **Topic** | **Type** | **Time** |
| History of endodontics | Theoretical | 1 |
| Getting acquainted and preparing material lists | Practical | 1 |
| Pulp | Theoretical | 3 |
| 1 upper incisor (central or lateral) tooth anatomical and anatomical aspects of the tooth layers were taken by taking a illustrating and naming morphological structures | Practical | 1 |
| 1 lower incisor (central or lateral) tooth anatomical and anatomical aspects of the tooth layers were taken by taking a illustrating and naming morphological structures | Practical | 1 |
| 1 upper canine tooth anatomical and anatomical aspects of the tooth layers were taken by taking a illustrating and naming morphological structures | Practical | 1 |
| Cement | Theoretical | 1 |
| 1 lower canine tooth anatomical and anatomical aspects of the tooth layers were taken by taking a illustrating and naming morphological structures | Practical | 1 |
| Dentın Sensıtıvıty, Pulpa Hyperemıa, Acute Pulptıs,Chronıc pulpıtıs | Theoretical | 1 |
| Longitudinal section of 1 maxillary premolar anatomical and morphological aspects of tooth layers illustrating and naming structures | Practical | 1 |
| Pulpa Necrosıs,Pulpa Polyb , Pulpa Gangrene | Theoretical | 1 |
| Longitudinal section of 1 mandibular premolar anatomical and morphological aspects of tooth layers illustrating and naming structures | Practical | 1 |
| Pulpa Degeneratıons | Theoretical | 1 |
| Longitudinal section of 1 maxillary molar anatomical and morphological aspects of tooth layers illustrating and naming structures | Practical | 1 |
| Effect Of Operatıve Processes On The Pulpa | Theoretical | 1 |
| Longitudinal section of 1 mandibular molar anatomical and morphological aspects of tooth layers illustrating and naming structures | Practical | 1 |
| Opening 1 upper incisor access cavity | Practical | 1 |
| Acute Apıcal Perıodontıtıs, Acute,Apıcal Abse ,Chronıc Apıcal Perıodontıtıs ,Chronıc Apıcal Abse,Condensıng Osteıtıs , Cementoma | Theoretical | 1 |
| 1 upper premolar access cavity opening | Practical | 1 |
| Instruments Used In Endodontıc Treatment | Theoretical | 1 |
| 1 upper molar access cavity opening | Practical | 1 |
| 1 lower premolar access cavity opening | Practical | 1 |
| Sterılızatıon And Dısınfectıon In Endodontıs | Theoretical | 1 |
| 1 lower molar access cavity opening | Practical | 1 |

**DENTISTRY AND AESTHETICS**

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| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| DENTISTRY AND AESTHETICS | **14** | **-** | **14** |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:** The aim of this course is to provide students information about aesthetics and its components and its usage in dentistry.

**Learning Objectives:**

Upon successful completion of this course, students will be able to;

1. Defines aesthetic.
2. Defines components of aesthetic.
3. Expresses the importance of aesthetic in dentistry.
4. Have information about aesthetic application in dentistry.

Expresses the importance of multidisciplinaty approach at aesthetic treatments.

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| **DENTISTRY AND AESTHETICS** |  |  |
| **Topic** | **Type** | **Time** |
| Definition and components of aesthetics | Theoretical | 1 |
| Relation of aesthetics and oral functions | Theoretical | 1 |
| Relation between dentist and patient in understanding aesrhetic expectations | Theoretical | 1 |
| Aestehtic concepts at dental tissues | Theoretical | 1 |
| Aesthetic approach at restorative treatments | Theoretical | 1 |
| Bleaching | Theoretical | 1 |
| Aesthetic approach at prosthetic treatments | Theoretical | 1 |
| Colour concept and white aesthetic | Theoretical | 1 |
| Pink aesthetic and healt of gingival tissues | Theoretical | 1 |
| Aesthetic approach at endodontic treatments (Devital bleaching) | Theoretical | 1 |
| Aestehtic concepts in implant treatments | Theoretical | 1 |
| Aesthetic in digital dentistry | Theoretical | 1 |
| Smile design | Theoretical | 1 |
| Multidisciplinary approach in aesthetic dental treaments | Theoretical | 1 |

**INFECTION CONTROL IN DENSTISTRY**

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| **COURSE** | **THEORETICAL**  **COURSE**  **DURATION (h)** | **PRACTICAL**  **COURSE**  **DURATION (h)** | **TOTAL**  **COURSE**  **DURATION (h)** |
| **INFECTION CONTROL IN DENSTISTRY** | **14** | **-** | **14** |

**AIMS AND LEARNING OBJECTIVES OF THE COURSE**

**Aim:** The aim of this course; is to teach the necessary infection control policies and procedures to prevent the transmission of diseases in dental clinics and to protect yourself, patients, staff and the public.e aim of this course is to give general information about the growth and development mechanisms and anatomy of the human body.

**Learning Objectives:**

1. Tells the infectious agents in dentistry clinics

2. Lists the precautions to be taken against the infectious agents that the dentist and health worker are at risk.

3. Explains pandemic diseases and their importance for public health.

4. Explains the necessary precautions for the protection of devices and equipment used in dentistry clinics from cross infection.

5. Relates the importance of waste management and the importance of health worker-patient-public health protection.

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| **INFECTION CONTROL IN DENSTISTRY** |  |  |
| **Topic** | **Type** | **Time** |
| Importance of microbiology for dental clinics. The work of early pioneers in microbiology. Koch postulates. | Theoretical | 1 |
| Identification of five main groups of microorganisms. (1) bacteria, (2) algae, (3) protozoa, (4) fungi, and (5) viruses. | Theoretical | 1 |
| Viruses and viral diseases (hepatitis and HIV) | Theoretical | 1 |
| Viral diseases (Herpes viruses, West Nile Virus, H1N1 virus, Ebola virus, Zika Virus) | Theoretical | 1 |
| Bacterial Diseases | Theoretical | 1 |
| Pandemic Diseases | Theoretical | 1 |
| Terms related to Disease Transmission and Infection Prevention | Theoretical | 1 |
| Chain of Infection | Theoretical | 1 |
| Disease Transmission Routes | Theoretical | 1 |
| Immune system | Theoretical | 1 |
| Disease Transmission in Dentistry and precautions to be taken | Theoretical | 1 |
| Infection Control Practices - Hand hygiene - Personal protective equipment - Protective masks - Safety glasses - Face shields | Theoretical | 1 |
| Maintaining Infection Control While Gloved-Latex Allergy | Theoretical | 1 |
| Waste Management in Dentistry | Theoretical | 1 |