

CUKUROVA UNIVERSITY

FACULTY OF DENTISTRY

1996-1997 ACADEMIC YEAR - SYLLABUS of 1ST GRADE

MEDICAL BIOLOGY AND GENETICS

TOPIC	HOUR
1 - Methods and Concepts in Biology	1
2 - Origin and Evolution of Living Organisms	2
3 - Viruses	1
4 - Monera Kingdom	1
5 - Protista Kingdom	2
6 - Fungi Kingdom	1
7 - Matter Cycle in Nature	1
8 - Ecological Pyramids and Biomass	1
9 - Population Ecology	1
10 - Environmental Pollution	2
11 - Cellular Macromolecules	1
12 - Cellular Melts	1
13 - Microscopes and Types of Cells	2
14 - The Structure and Function of Cell	1
15 - Mitochondria and Nucleus	1
16 - Plant Organelles and Cytoskeleton	1
17 - Structure of the cell membrane	1
18 - Cell Membrane Transport Mechanisms	2
19 - Membrane Surface and Junction Complexes	1
20 - Photosynthesis	1
21 - Chemosynthesis	1
22 - Cell Respiratory	3
23 - Cell Cycle	1
24 - Mitotic Division and Asexual Reproduction	1
25 - Mayotic Division and Sexual Reproduction	1
26 - Gametogenesis and Fertilization	1
27 - Stages of Zygote Division	1
28 - Morphogenesis and Differentiation	1
29 - Factors Influencing Embryonic Development	1
30 - Tissues	3
31 - Homeostasis	1
32 - Reproductive System	3
33 - Neural Control and Regulation	3
34 - Sensory Receptors and Sensory Organs	4
35 - Hormonal Regulation	3
36 - Osmoregulation	1
37 - Excretion	1
38 - Nutrition and Digestive System	1
39 - Gas Exchange: Respiration	1
40 - Circulatory System	1
41 - Nervous System	1
42 - Support System	1
43 - Locomotor System	1
44 - Specific Immunity of the Body	1
45 -Non-Specific Immunity of the Body	1
46 - Primary and Secondary Responses	1

47 - Primary and Secondary Responses	2
48 - DNA Structure and Replication	2
49 - Protein Synthesis	2
50 - Mutations and DNA Repair	2
51 - Regulation of Gene Expression	3
52 - Recombinant DNA Applications	2
53 - Gene Cloning	2
54 - Recombinant DNA Applications	2
55 - Biology Of Bacteriophage	1
56 - Transformation	1
57 - Conjugation	2
58 - Transduction	2
59 - Extrachromosomal Genetic Structures	1
60 - Organization of the Eukaryotic Genome	2
61 - Mendelian Inheritance	2
62 - Single Gene Inheritance	1
63 - Gene Interactions	1
64 - Multiple Alleles and Blood Types	1
65 - Multifactorial Inheritance and Pleiotropy	1
66 - Mitochondrial Inheritance and Cytoplasmic Inheritance	1
67 - Sex-Related Heredity	1
68 - Penetrance and Expressivity	1
69 - Gene Mapping	3
70 - Karyotypic Analysis	3
71 - Chromosomal Mutations	2
72 - Autosomal Chromosome Irregularities	1
73 - Sex Chromosome Abnormalities	2
74 - Biochemical Genetics	1
75 - Immunogenetics	2
76 - Cancer Genetics	1
77 - Genetic Counseling	2
78 - Population Genetics	4
79 - Evolutionary Genetics	2
80 - Molecular Evolution of humans	1

LAB	HOUR
1 - Microscope and Cell Examination	3
2 - Biogenesis: Study of Unicellular Organisms	3
3 - Diffusion, Osmosis, Plasmolysis, Deplasmolysis, Photosynthesis and Respiratory Experiments	3
4 - Mitosis and Meiosis Stages	3
5 - Epithelial, Nervous, and Blood Tissues	3
6 - Connective Tissue, Cartilage, Bone and Muscle Tissue	3
7 - Examination of the Reproductive System, Lung, Heart	3
8 - Examination of the Kidney and Brain and Frog Dissection	3
9 - Bioenesiis and Examination of Unicellular Organisms, DNA Isolation, and Pedigree Analysis	3
10 - Blood Types, Barr body	3

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BIOSTATISTICS AND COMPUTER

TOPIC	HOUR
1 - In Medicine, Statistics - Biostatistics	2
-Gathering Information from Health Sciences	
-Medical Informatics	
2 - Basic Features of Health Information Systems	2
-Data Sources for Health Data	
- International Data Sources,	
- Accessibility Data Sources in Turkey	
3 - Measurement of the Health Level and Service Adequacy of the Society from the Data Collected in2 National Health Information Systems, Population-related measurements and evaluations.	
4 - Evaluation Methods for Births	2
5 - Evaluation Methods for Measurements	2
6 - Evaluation Methods for Diseases	2
7 - Evaluation of Hospital Services with Data Collected from Hospital Information Systems	2
8 - Data Collection by Research: Planning, Sources of Error, and Data Types	2
9 - Schematic Representation of Data, Classification Tables and Graphs	4
10 - Summarizing Clinical and Total Data: Central Measures.	4
11 - Summarizing Data: Measures of Dispersion	4
12 - Sampling in community studies	2
13 - Probability Distributions, Estimation Methods such as Chi-square	2
14 - Significance Tests, Parametric and Non-Parametric Significance Tests	3
15 - Regression	4
16 - Correlation Analysis	3
17 - Risk Factors for Diseases : Identification, Cross-Sectional Case-Control and Cohort Studies, Chi-Square Analysis	6
18 - Statistical Evaluation of Surgical and Medical Treatment Methods - Controlled Clinical Trials, Survival Analysis, and Meta-Analysis	4
LAB	HOUR
1 - Computer-Based: Statistics in Medicine-Biostatistics, Data Collection from Health Sciences, Medical Informatics	2
2 - Computer-Based: Measurement of the Health Level and Service Adequacy of the Community from the Data Collected in the National Health Information Systems, Measurements and Evaluations of the Population.	2
3 - Computer-Based: - Evaluation Methods for measurements	2
4 - Computer-Based: Evaluation of Hospital Services with Data Collected by Computer - Hospital Information Systems	2
5 - Computer-Based: - Schematic Representation of Data, Classification Tables and Graphs	2
6 - On the Computer: Summarizing Clinical and Total Data: Central Measures	2
7 - In the classroom - In the Classroom: Summarizing Data: Measures of Dispersion	2
8 - Computer-Based: Significance Tests, Parametric and Non-Parametric Significance Tests	2
9 - In the classroom - Risk Factors for Diseases : Identification, Cross-Sectional Case-Control and Cohort2 Studies, Chi-Square Analysis	
10 - In the classroom - Statistical Evaluation of Surgical and Medical Treatment Methods	2

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MEDICAL PHYSICS

TOPIC	HOUR
1 - Measurement and International System of Units	2
2 - Relationships Between Structure and Function in Living Organisms	2
3 - Bones, Muscles and Joints	1
4 - Forces Acting on the Body	2
5 - Balance and Stability in the Human Body	3
6 - Physics of Jumping and High Jumps	2
7 - Energy Expenditure During Physical Activity	1
8 - The Physics of Walking and Running	2
9 - The Energy Expended during Running and Metabolic Rate	1
10 – Injury from Collisions, Bone Fractures, and Airbags	2
11 - Properties of Stagnant Fluids and Pressure	2
12 -Gases, Temperature and Partial Pressure	2
13 - Liquids, Surface Tension, and Capillarity	2
14 - Heat Transfer Mechanisms and Thermoregulation	3
15 - Light, Optics and Optical Instruments	3

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ORGANIC CHEMISTRY AND BIOCHEMISTRY

TOPIC	HOUR
1 - Introduction to Biochemistry	1
2 - Basic Structure of Organic Compounds in the Organism	3
3 - Gases	2
4 - Solutions	2
5 - PH, Buffer, Acid, Base Concepts	5
6 - Biochemical Methods	2
7 - Carbohydrates	4
8 - Heteropolysaccharides	1
9 - Lipids	4
10 - Amino Acids	4
11 - proteins	4
12 - Nucleic Acids	4
13 - Vitamines and Coenzymes	7
14 - Trace Elements	2
15 - Nutrition	1
16 - Enzymes	3
17 - Enzyme Kinetics	2
18 - General overview of Metabolism	2
19 - Energy Metabolism	2
20 - Glucose, Gluconeogenesis	2
21 - Glycogen Synthesis and Breakdown	2
22 - Metabolism of Non-Glucose Sugars	1
23 - Glucose Control	2
24 - Pentose Phosphate Pathway	2
25 - TCA Cycle (Tricarboxylic acid cycle)	2
26 - Oxidation, Reduction	2
27 - Electron Transport	2
28 - Oxidative Phosphorylation	2
29 - ATP Synthesis	1
30 - Fatty acid catabolism	2
31 - Fatty Acids Synthesis	2
32 - Phospholipid Synthesis and Triglycerides	2
33 - Cholesterol and Prostaglandin	3
34 - Replication	2
35 - Transcription	2
36 - Translation	2
37 - Genetic code	2
38 - Genetic Control	2
39 - Use of DNA in Medicine	3
40 - Cancer Biochemistry	2
41 - Blood Gases and Acid-Base Balance	3
42 - Body Fluids and Electrolyte Balance	3

43 - Cell Membrane Biochemistry and Cell Transport System	3
44 - Connective Tissue Collagen	2
45 - Bone and Calcium Biochemistry	2
46 - Muscle and Biochemistry	4
47 - Nerve and Biochemistry	2

LAB	HOOR
1 - Spectrophotometer	3
2 - PH Acid -Base Titration	3
3 - Carbohydrates	3
4 - Lipid Cholesterol	3
5 - Proteins	3
6 - Protein, Chromatography laboratory	3
7 - Enzyme	3
8 - Blood Sugar	3
9 - Determination of Urea	3
10 - Determination of DNA	3

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FIRST AID AND EMERGENCY RESPONSE

TOPIC	HOUR
1 - General Approach, Review of Vital Signs, Airway management	1
2 - Shock, definition and types	1
3 - Basic life support, Advanced cardiac support	1
4 - Pharmacologic agents used in emergency situations	1
5 - General management of trauma patient, Differential diagnosis of chest pain	1
6 - Respiratory system emergencies	1
7 - Hypersensitivity reactions	1
8 - Management of fever	1
9 - Foreign body aspirations	1
10 - Dental emergencies	1

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PROSTHODONTICS (THEORETICAL)

TOPIC	HOUR
1-Introduction of Dental Anatomy and Physiology.Terminology, definitions and classifications.	1
2 - Anatomy, Physiology, preparation and wax modelling of maxillary santral incisor 11 or 21	2
3 - Anatomy, Physiology, preparation and wax modelling of maxilla canine 13 or 23	2
4-Anatomy, Physiology, preparation and wax modelling of maxilla 1. premolar.14 or 24	2
5 - Anatomy, Physiology, preparation and wax modelling of the first mandibular premolar.34 or 44	2
6 - Anatomy, Physiology, preparation and wax modelling of the second mandibular premolar. 35 or 45	2
7-Anatomy, Physiology, preparation and wax modelling of the first maxillary molar.16 or 26	2
8 - Anatomy, Physiology, preparation and wax modelling of the first mandibular molar.36 or 46	2
9 - Principles of Preparation	3
10 - Techniques of wax modelling.	2
11 - Fabrication techniques of temporary crown and jacket crown	2
12 - Use of Casting Unit	2
13 - Casting Process	3
14 - Casting Errors	2
15 - Casting-Metal Adaptation	1
16 - Casting Metal Finishing and Polishing	1
17 - Acrylic Materials	1

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PROSTHODONTICS (PRACTICAL)

TOPIC	HOUR
Plaster Manipulation	8
Demonstration of Plaster Sculpture for tooth 11 or 21	8
Practice of Plaster Sculpture for tooth 11 or 21	8
Demonstration of Plaster Sculpture for tooth 13 or 23	8
Practice of Plaster Sculpture for tooth 13 or 23	8
Independent Work (Submission of tooth 11 and 13)	8
Demonstration of Plaster Sculpture for tooth 14 or 24	8
Practice of Plaster Sculpture for tooth 14 or 24	8
Demonstration of Plaster Sculpture for tooth 34 or 44	8
Practice of Plaster Sculpture for tooth 34 or 44	8
Demonstration of Wax Modelling for tooth 16 or 26	16
Practice of Wax Sculpture for 16 or 26	8
Demonstration of Preparation for 11, 36	8
Independent Practice of Preparation for 11, 36	8
Demonstration of Jacket Crown for 11 or 21	8
Practice of Jacket Crown for 11 or 21	24
Demonstration of Full Crown for 36 or 46	8
Practice of Full Crown for 36 or 46	32
Cold Acrylic Spoon Demonstration	8
Cold Acrylic Spoon Practice	16
Hot Acrylic Denture Bases Demonstration	8
Hot Acrylic Denture Bases Practice	32

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1996-1997 ACADEMIC YEAR - SYLLABUS of 2ND GRADE

ANATOMY

CELL-TISSUE BIOLOGY COURSE BOARD

<u>COURSE CODE</u>	<u>COURSE SUBJECT</u>	<u>HOUR</u>
Ana1	Introduction to anatomy	1
Ana2	General information about the motion system	1
Ana3	General information about veins	1
Ana4	General information about lymphatics	1
Ana5	Innervation of organs and formations	1
Ana6	Bones, joints and muscles of the upper extremities	2
Ana7	Nerves and vessels of the upper extremities	2
AnaLab.	Upper limbs	2
Ana8	Columna vertebralis and joints	2
Ana9	Bones, joints and muscles of the lower extremities	2
Ana10	Nerves and vessels of the lower extremities	1
AnaLab.	Columna vertebralis, lower limbs	2
THEORETICAL	: 14 HOURS	
PRACTICAL	: 4 HOURS	
TOTAL	: 18 HOURS	

AnaLab. Practical lessons

ORGAN SYSTEMS I COURSE BOARD

<u>COURSE CODE</u>	<u>COURSE SUBJECT</u>	<u>HOUR</u>
Ana11	Skull bones	3
Ana12	The entirety of the skull	2
AnaLab.	Skull skeleton	2
Ana13	Neck area	3
Ana14	Facial region, masticatory muscles, temporal region, parotid region	2
AnaLab.	Neck area	3
Ana15	Scalp, Inftemporal region, fossa pterygopalatina	1
AnaLab.	Scalp of the facial region, temporal, infratemporal region, pterygopalatina of the fossa	2
Ana16	Head and neck blood vessels, lymphatics and nerves	2
AnaLab.	Head and neck vessels and nerves	2
Ana17	Head and neck in childhood	1
Ana18	Cerebral hemispheres	1
Ana19	Cerebral membranes and CSF	1
Ana20	Diencephalon, brain beard	1

Ana21	Cerebellum	1
Ana22	External structure of M.spinalis	1
AnaLab.	Gross anatomy of the nervous system	2

THEORETICAL : 19 HOURS
PRACTICAL : 11 HOURS
TOTAL : 30 HOURS

ORGAN SYSTEMS II COURSE BOARD

<u>COURSE CODE</u>	<u>COURSE SUBJECT</u>	<u>HOUR</u>
Ana23	Thoracic bones and joints	2
Ana24	Thoracic wall vessels and nerves mediastinum	2
Ana25	Heart, large vessels and pericardium	3
AnaLab.	Thorax, heart	2
Ana26	Nasal and paranasal sinuses	2
Ana27	Larynx, phonation and speech	2
Ana28	Trachea, bronchi, lungs	2
Ana29	Pleura	1
AnaLab.	Anatomy of the respiratory system	2

THEORETICAL: 14 HOURS
PRACTICAL: 4 HOURS
TOTAL: 18 HOURS

ORGAN SYSTEMS III COURSE BOARD

<u>COURSE CODE</u>	<u>COURSE SUBJECT</u>	<u>HOUR</u>
Ana30	Oral cavity, tongue, palate, salivary glands and teeth	2
Ana31	Chewing and sense of taste	2
AnaLab.	Anatomy of the mouth	2
Ana32	Pharynx and swallowing	2
AnaLab.	Pharynx and swallowing	1
Ana33	Esophagus	1
Ana34	Abdominal walls	2
Ana35	Stomach	1
Ana36	Small and large intestines	1
Ana37	Liver, gallbladder and pancreas	2
Ana38	Peritoneal Anatomy	1
AnaLab.	Anatomy of the digestive system	2
Ana39	Anatomy of the urinary system	1
AnaLab.	Anatomy of the urinary system	1

THEORETICAL : 15 HOURS
PRACTICAL : 6 HOURS
TOTAL : 21 HOURS

ORGAN SYSTEMS IV COURSE BOARD

<u>COURSE CODE</u>	<u>COURSE SUBJECT</u>	<u>HOUR</u>
Ana40	Internal structure of M.spinalis	1
Ana41	Descending roads	1
Ana42	Trails leading	2
Ana43	Internal structure of the brainstem	2
Ana44	Pairs of heads and lesions	2
Ana45	Internal structure of the cerebellum	1
Ana46	Diencephalon internal structure	1
Ana47	Autonomic nervous system	1
Ana48	Formasyo retikularis	1
Ana49	Limbic system	1
Ana50	Extrapyrmidal system	1
Ana51	Cerebral cortex	2
AnaLab.	Internal structures of the nervous system	1
Ana52	Ear anatomy	2
Ana53	Hearing and balance pathways	1
AnaLab.	Ear anatomy	2
Ana54	Eye and tear	2
Ana45	Ways of seeing	1
AnaLab.	Anatomy of the eye	1
Ana56	Vessels of the nervous system	1
Ana57	Endocrine glands	2
Ana58	Pelvis and perineum	1
Ana59	Female genital organs	1
Ana60	Male genitalia	1
AnaLab.	Female and male genital organs	2

THEORETICAL: 28 HOURS

PRACTICAL: 6 HOURS

TOTAL: 34 HOURS

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HISTOLOGY AND EMBRYOLOGY

CELL AND TISSUE BIOLOGY COURSE BOARD

COURSE CODE	COURSE SUBJECT	COURSE HOURS	
		PRACTICAL	THEORETICAL
HIS	Definition of Histology and Cytology	-	1
HIS	Tissue Preparation and Analysis Methods	1	1
HIS	Electron Microscopy	1	1
HIS	Cells and Cellular Elements	3	4
HIS	Cell Nucleus and Cell Division	-	1
HIS	Introduction to Tissue Histology	-	1
HIS	Epithelial Tissue: Protective and Glandular Epithelial	3	2
HIS	Supporting Tissue Histology: Connective and Adipose Tissue	3	2
HIS	Specialized Connective Tissue: Bone and Cartilage	2	2
HIS	Muscle Tissue: Muscle Tissue: Smooth, Striated, and Cardiac Muscle	2	3
HIS	Nervous Tissue Histology	2	3
HIS	Skin and Its Appendages (Integument)	1	2
	TOTAL	18	23

ORGAN SYSTEMS I. COURSE BOARD

COURSE CODE	COURSE SUBJECT	COURSE HOURS	
		PRACTICAL	THEORETICAL
HIS	Introduction to Human Embryology	-	1
HIS	Gametogenesis	-	1
HIS	Ovulation and Implantation	-	2
HIS	Bilaminar Germ Disc	-	1

HIS	Trilaminar Germ Disc	-	1
HIS	Embryonic Period	-	2
HIS	Fetal Period	-	1
HIS	Extraembryonic Formations	-	2
HIS	Congenital Malformations	-	2
HIS	Peripheral Blood, Myeloid Organs	1	2
HIS	Hematopoiesis and Hematopoietic Organs.	1	1
HIS	Lymphoreticular System Histology: Lymph Nodes, Tonsils, Thymus, and Spleen	3	3
	TOTAL	5	19

ORGAN SYSTEMS II. COURSE BOARD

COURSE CODE	COURSE SUBJECT	COURSE HOURS	
		PRACTICAL	THEORETICAL
HIS	Circulatory System: Cardiovascular Histology	3	3
HIS	Upper Respiratory Tract	1	2
HIS	Lower Respiratory Tract	2	2
	TOTAL	6	7

ORGAN SYSTEMS III. COURSE BOARD

COURSE CODE	COURSE SUBJECT	COURSE HOURS	
		PRACTICAL	THEORETICAL
HIS	Central Nervous System: Brain, Cerebellum, Spinal Cord, and Meninges	2	2
HIS	Histology of the Ear	-	1
HIS	Histology of Eye	-	1
HIS	Pituitary and Pineal Glands	1	2
HIS	Thyroid and Parathyroid Glands	1	2
HIS	Adrenal Glands, Islets of Langerhans and Chromaffin System	2	1
HIS	Female Reproductive System	2	2

HIS	Male Reproductive System	2	2
	TOTAL	10	13

ORGAN SYSTEMS IV. COURSE BOARD

COURSE CODE	COURSE SUBJECT	COURSE HOURS	
		PRACTICAL	THEORETICAL
HIS	Head and Neck Embryology	-	3
HIS	Development of Teeth	-	2
HIS	Oral Cavity: Lips, Cheek, Tongue, Salivary Glands, Palate and Tonsils	3	3
HIS	Esophagus and Stomach	2	2
HIS	Small and Large Intestine	2	2
HIS	Liver, Gallbladder, Pancreas	2	2
HIS	Histology of Kidney and Urinary Ductus	1	3
HIS	Histology of the Urinary Tract	1	1
	TOTAL	11	18

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PHYSIOLOGY

CELL-TISSUE BIOLOGY COURSE BOARD

Course Subject:	Course Hours
Functional structure of the cell	1 hour
Body liquid parts	1 hour
cell membrane transport	1 hour
Rest membrane potential	1 hour
Intracellular and intercellular communication	1 hour
neuron, axon, axonic current	1 hour
Action potential, ionic basis of communication	1 hour
Molecular mechanism of contraction in skeletal muscle and Types of contractions, summation	1 hour
Electrical and mechanical properties of the heart and smooth muscle..... 1 hour	
Total Theoretical :	9 Hours
Total Practice: (Nerve-muscle preparation)	1 hour

ORGAN SYSTEMS I COURSE BOARD

Course Subject	Course Hours
Erythrocytes, erythropoiesis, erythropoietin.....	2 hours
Blood formation, functions of white blood cells.....	1 hour
Development of the immune system, humoral immunity.....	2 hours
Cellular immunity, lymphokines, cytokines.....	1 hour
Blood groups.....	1 hour
Plasma proteins, platelets.....	1 hour
Hemostasis.....	2 hours
Total Theoretical :	10 hours
Blood sampling, coagulation, and bleeding time.....	1 hour
Erythrocyte count, hematocrit, blood groups.....	1 hour
Sedimentation, Hb, Prothrombin Time, osmotic fragility	1 hour
Leukocyte count, peripheral smear	1 hour
Total Practice:	4hours

ORGAN SYSTEMS II COURSE BOARD

Course Subject	Course Hours
Electrical events in synapses	1 hour
Inhibition and facilitation in synapses	1 hour

Chemical transmission of synaptic activity	1 hour
Neuromuscular transmission	1 hour
Sense organs, initiation of impulses	1 hour
reflection, strain and polysynaptic reflexes.....	1 hour
Autonomic nervous system	2 hours
Senses, taste and smell.....	1 hour
Eye and visual function.....	2 hours
Hearing and balance.....	2 hours
Motor functions of the nervous system.....	3 hours
Intellectual functions of the nervous system.	2 hours
Sleep-wake mechanisms and electrical activity of the brain.....	1 hour

Total Theoretical : 19 Hours

Reflexes.....	1 hour
Visual field and visual acuity	1 hour
Hearing tests.	1 hour

Total Practice: 3 hours

ORGAN SYSTEMS III COURSE BOARD

Course Subject Lecture Hours

Excitation of heart muscle and transport of stimuli.....	2 hours
ECG and basic functions	2 hours
Abnormal rhythms of the heart	1 hour
Mechanical events in the heart cycle.....	1 hour
Arterial and jugular pulses, heart sounds	1 hour
Cardiac output, measurement, controlling factors.....	2 hours
Liquids and hemodynamics.....	1 hour
Veins and capillary bed	1 hour
Arterial and arteriolar circulation	2 hours
Capillary circulation	1 hour
Lymphatic and venous circulation.....	2 hours
Cardiovascular regulatory mechanisms, Local regulation of circulation.....	1 hour
Mechanisms of systemic regulation of circulation.....	2 hours
Cerebral circulation.....	1 hour
Coronary circulation.....	1 hour
Special circulatory systems.....	1 hour
Cardiovascular response in exercise and hemorrhagic shock.....	1 hour
Syncope, hypertension, and cardiovascular response in heart failure.....	1 hour
Gas laws and respiratory mechanics.....	2 hours
Lung volume and capacities.....	1 hour
Pulmonary circulation and other functions of the respiratory system	1 hour
Oxygen (O ₂), carbon dioxide (CO ₂) transport, and blood buffers.....	1 hour
Regulation of respiration.....	1 hour
Regulation of respiration during exercise and hypoxia.....	1 hour

TOTAL : 31 hours

PRACTICAL:

ECG and heart sounds	1 hour
Direct measurement of arterial blood pressure	1 hour

Spirometer, lung sounds, arterial pressure measurement	1 hour
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TOTAL:	3 hours
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ORGAN SYSTEMS IV COURSE BOARD

THEORETICAL:

Course Subject Duration

Energy balance and basal metabolism.....	1 hour
Thermoregulation	1 hour
Motility: General Principles.....	1 hour
Gastrointestinal tract hormones.....	1 hour
Motility: Swallowing, esophageal and gastric motility, vomiting.....	1 hour
Gastrointestinal secretion: Saliva and stomach.....	2 hours
Motility: Small-large bowel motility, defecation.....	1 hour
Gastrointestinal secretion: Pancreas, liver, bile.....	2 hours
Digestion and absorption: Carbohydrate and protein.....	1 hour
Digestion and absorption: Salt and water absorption.....	1 hour
Digestion and absorption: Ca, Fe, B12 and lipid.....	1 hour
Functional organization of the kidney, renal filtration.....	1 hour
Tubular function, renal blood flow.....	2 hours
Renal concentration dilution.....	1 hour
Regulation of water and osmolality.....	1 hour
Potassium, Calcium and Phosphate homeostasis.....	1 hour
Acid-base regulation: H Secretion, HCO ₃ reabsorption.....	1 hour
Hormones and their mechanism of action.....	1 hour
Intermediate metabolism.....	1 hour
Whole-body metabolism.....	2 hours
Pancreatic hormones.....	2 hours
Calcium metabolism and bone.....	2 hours
Hypothalamus and pituitary hormones, physiology of growth.....	2 hours
Thyroid hormones.....	1 hour
Adrenal cortex and medulla hormones.....	2 hours
Pituitary gonadotropins, puberty, menopause.....	1 hour
Male reproductive system.....	2 hours
Female reproductive system.....	2 hours
Pregnancy, childbirth, prolactin, lactation.....	1 hour

TOTAL:	39 hours
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PRACTICAL:

Isolated bowel	1 hour
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TOTAL THEORY: 108 HOURS

TOTAL PRACTICE: 12 HOURS

TOTAL : 120 HOURS

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BIOPHYSICS

TOPIC	HOUR
Cell membranes, substance transport and resting membrane potential	3
Action potentials and ion channels	3
Compound action potentials	3
Muscle contraction, bioelectrical events and EMG	3
Bone: Mechanical and electrical properties	4
Circulatory biophysics	3
Respiratory dynamics	3
Synapse and synaptic potentials	3
Brain potentials: EEG and arousal potentials	3
Bioelectrical measurement and observation tools	2

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MICROBIOLOGY

Course Name: Cell and Tissue Biology

Course Code	Course Topic	Course Hours	
		Practical	Theoretical
MIC 1	Introduction to microbiology		1
MIC 2	Fine structure of the bacterial cells		3
MIC 3	Bacterial metabolism		1
MIC 4	Bacterial genetics		1
MIC 5	Reproduction of microorganisms		2
MIC 6	Morphological and physiological characteristics of viruses		2
MIC 7	Replication of viruses		1
MIC 8	Methods for the diagnosis of viral infections		2
MIC 9	Interferon-interference		1
MIC 10	Sterilization-disinfection		2
Total			16

Course Name : Organ Systems I

Course Code	Course Topic	Course Hours	
		Practical	Theoretical
MIC 11	Host-Microorganism Interactions		2
MIL.1	Description of tools, equipment, and culture media used in microbiology	3	
MIC 12	Oral flora and normal flora		1
MIL.2	Demonstration of microbial secretions	2	
MIC 13	Sample taking, sending and report evaluation in microbiological diagnosis		1
MIC 14	Staphylococcus-Streptococcus		3
MIC 15	Neisserias		1
MIC.3	Examination of Gr (+) and Gr (-) roots	4	
MIC 16	Coliforms		2
MIC 17	Salmonellas-Shegellas		1
MIC 18	Campylobacter-Helicobacter-Pseudomonas		1
MIC 19	Vibrios		1
MIL.4	Examination of intestinal bacteria	3	
MIC 20	Brucellas		1
MIC 21	Haemophilus-Bordatellas		1
MIC 22	Francisella-Yersinia and Pasteurella		1
MIC 23	Bacillus		1
MIL.5	Study of Bacillus	1	
MIC 24	Clostridiums		2
MIC 25	Non-spore-forming anaerobes		1
MIL.6	Anaerobic spore-forming and non-spore-forming bacteria	1	
MIC 26	Introduction to immunology		1

Course Code	Course Topic	Course Hours	
		Practical	Theoretical
MIC 27	Antigens		1
MIL.6	Examination of normal microbial flora I	2	
MIL.7	Examination of normal microbial flora II (after 6 to 24 hours of incubation)	1	
MIC 28	Organs and tissues involved in the immune response		1
MIC 29	Antibodies and antibody synthesis mechanisms		1
MIC 30	Antigen-antibody reactions		1
MIC 31	Cellular immunity		1
MIL.8	Serological tests	2	
Total		19	26

Course Name :Organ Systems II

Course Code	Course Topic	Course Hours	
		Practical	Theoretical
MIC 32	Adenoviruses-Parvoviruses		1
MIC 33	Herpes viruses		2
MIC 34	Rubella		1
MIC 35	Picornaviruses		1
MIC 36	Rabies virus		1
MIC 37	Mixoviruses-Paramyxoviruses		2
MIC 38	Reoviruses-enteric viruses		1
MIC 39	Viral hepatitis		2
MIC 40	Retroviruses		1
MIC 41	HIV (Human Immunodeficiency Virus)		1
MIC 42	Cancer viruses		1
MIC 43	Antiviral drugs		1
Total			15

Course Name : Organ Systems III

Course Code	Course Topic	Course Hours	
		Practical	Theoretical
MIC 44	Treponemas		2
MIC 45	Borrelia-Leptospiras		1
MIC 46	Corynebacteria-Listeria		1
MIL.9	Examination of Corynebacteria and Listerias	1	
MIC 47	Mycobacteria		3
MIL.10	Examination of mycobacteria	2	
MIC 48	Chlamydia and mycoplasma		3
MIC 49	Vaccines		1
MIC 50	Antibiotics		2
MIL.11	Detection of antibiotic susceptibility	1	
Total		4	13

Course Name :Organ Systems IV

Course Code	Course Topic	Course Hours	
		Practical	Theoretical
MIC 51	Rickettsiae		1
MIC 52	Actinomyces and Nocardias		1
MIC 53	Structure and characteristics of fungi		1
MIC 54	Dermatophytes		2
MIC 55	Malassezia and Piedra agents		1
MIC 56	Candida		2
MIC 57	Cryptococcus neoformans		1
MIC 58	Aspergillus		1
MIC 59	Fungi in the class Zygomycetes		1
MIC 60	Dematiaceous fungi		1
MIC 61	Sporothrix schenckii		1
MIC 62	Dimorphic fungi		1
MIL.12	Mycology practice	3	
Total		3	14

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PARASITOLOGY

TOPIC	HOUR
Introduction to Parasitology	1
Protozoa	4
Helminths	1
Nematodes	4
Cestodes	3
Trematodes	2
Arthropods	1
LAB	HOUR
Protozoa	2
Helminths	2

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BIOCHEMISTRY

Course Code	CELL TISSUE COURSE BOARD	Course Hours
BIK	Biochemistry of bones	2
BIK	Biochemistry of Connective Tissue	2
BIK	Biochemistry of muscle	2
BIK	Neurochemistry and Neurotransmitters	2
BIK	Dental Biochemistry	2
	ORGAN SYSTEMS I	
BIK	Metabolism of Purine and Pyrimidine	2
BIK	Structure of DNA and RNA	2
BIK	DNA and RNA metabolism	2
BIK	Synthesis of proteins	2
BIK	Cancer Biochemistry	2
	ORGAN SYSTEMS II	
BIK	Biochemical sampling	2
BIK	Plasma proteins and Immunoglobulins	2
BIK	Plasma Enzymes	2
BIK	biochemistry of coagulation	2
BIK	Erythrocyte Biochemistry	2
BIK	Metabolism of Hemoglobin and Bilirubin	2
BIK	Blood Count and Electrophoresis (Practical)	3
BIK	Glucose tolerance test (Practical)	3
	ORGAN SYSTEMS III	
BIK	Metabolism of carbohydrates	4
BIK	Metabolism of lipoproteins	4
BIK	Metabolism of protein	2
BIK	Metabolism of aminoacids	2
BIK	Urea Cycle	2
	ORGAN SYSTEMS IV	
BIK	Urine Analysis	2
BIK	General Overview of Hormones and Their Mechanisms of Action	2
BIK	Hypothalamus and Pituitary Hormones	2
BIK	Thyroid and Parathyroid Hormones	2
BIK	Adrenal Hormones	2
BIK	Gonodol Hormones	2
BIK	Gastrointestinal System and Pancreatic Hormones	2
BIK	Urine Analysis (Practical)	4

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PROSTHODONTICS

SUBJECT (Theoretical Curriculum)	HOUR
	2
1 - Fixed prosthesis concept and terminology	
2 - Basic principles of tooth preparation	4
3 -Acquiring Dental Models, Trimming	2
4 -Basic principles of wax-modeling	4
5 - Types of bridge bodies	4
6 - Basic principles of the casting process	4
7 - Casting Errors and Preventive Measures	4
8 -Basic Principles of Flasking in Dental Prosthetics	4
9 - Acrylic Firing and Finishing Procedures	4
SUBJECT (Practical Curriculum)	HOUR
Anterior and Posterior Veneer Crown	
1 - Preparation	6
2 - Impression	2
3 - Modeling and Die Preparation	6
4 - Wax Modeling	6
5 - Roding, Casting, and Finishing Procedures	8
6 - Flasking and Acrylic Finishing	2
Aesthetic Posterior Bridge	
7 - Preparation	6
8 - Impression	2
9 - Obtaining a Model and Die Preparation	8
10 - Wax Modeling	8
11 - Roding, Casting and Finishing Processes	8
12 - Flasking and Acrylic Finishing	6
Aesthetic Anterior Bridge	
13 - Preparation	6
14 - Impression	2
15 - Modeling and Preparing to Die	8
16 - Wax Modeling	8
17 - Roding, Casting and Finishing Processes	8
18 - Flasking and Acrylic Finishing	6
Hygienic Bridge	
19 - Preparation	6
20 - Impression	2
21 - Modeling and Preparing to Die	8
22 - Wax Modeling	8
23 - Rodding, Casting and Finishing Processes	8
24 - Flasking and Acrylic Finishing	6
Aesthetic Anterior Bridge in Phantom Models	

25 - Preparation	6
26 - Impression	2
27 - Modeling and Preparing to Die	8
28 - Wax Modeling	8
29 - Roding, Casting and Finishing Processes	8
30 - Flasking and Acrylic Finishing	6
31 - Intraoral Adaptation	2
Aesthetic Posterior Bridge in Phantom Models	
32 - Preparation	6
33 - Impression	2
34 - Modeling and Preparing to Die	8
35 - Wax Modeling	8
36 - Roding, Casting and Finishing Processes	8
37 - Flasking and Acrylic Finishing	6
38 - Intraoral Adaptation	2

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RESTORATIVE DENTISTRY AND ENDODONTICS

SUBJECT (Theoretical Curriculum)	HOUR
1.Instruments and Devices Used in Conservative Dentistry	2
-Metals Used in the Construction of Hand Instruments	
-Classification of Instruments According to A.D.A. Standards and Catalog Numbers	
-Instruments Used in Cavity Preparation	
-Instruments Used in the Application of Restorative Materials to the Cavity	
-Instruments Used in Polishing Restorations	
2.General principles of cavity preparation	2
-Classification of cavities	
-Contemporary Approaches to Cavity Preparation	
3.Enamel	4
-Permeability	
-Clinical presentation and diagnosis	
-colour	
-cavitation	
-wear	
-fissures	
-Cracks	
-Crystal structure	
-enamel prisms	
-Overview of Enamel Histology	
4.Dentin	4
-function	
-support	
-Morphology	
-Permeability	
-Sensitivity	
-General Overview of Variable Dentin Histology and Clinical Significance	
5.Cementum	2
-Ultrastructure	
-General Overview of Cement Histology	
-Function of cementum	
-Compositional features of the enamel cementum border and the clinical significance of this phenomenon	
6.Caries	6
-Experimental caries	
-Definition of caries and approach to caries in the present and in the past	
-dental plaque and caries	
-Structure and maturation of plaque	
-diet and caries	
-Carbohydrates	
-Fats	
-Proteins	
-artificial sweeteners and caries	

-Formation and histopathology of caries	
-Clinical forms of caries	
7. Dental Anomalies:	4
-Developmental defects of enamel	
-Disorders in Mature Enamel	
-Treatment Approaches for Developmental defects of enamel	
-Developmental defects of Dentin	
-Diseases of the dentin that have completed its development	
- Numerical Anomalies in Teeth	
- Shape and form Anomalies in teeth	
8.Restorative Materials:	6
-Amalgam fillings	
-Composite fillings	
-The Basic Principles of Adhesion of Restorative Materials to Tooth Structures	
-Cements	
-Zinc phosphate cement	
-zinc oxide eugenol cements,	
-polycarboxylate cements	
-Glass ionomer cements,	
-silicate cements	
-silicophosphate cements	
-Cavity Sealants, Cavity Varnishes, Cavity Liners	
-Resin-Modified Glass Ionomer Cements, Compomers	
9.Restorations with dentin pins	2
- Indications for Pin Placement	
-Types of Pins	
-Localization of Pin Placement	

SUBJECT (Practical Curriculum)	HOUR
General Principles of Cavity Preparation	
1.Applications on plaster teeth.	9
2. Opening Cavities According to Black Classification for All Tooth Groups.	9
3.Applications on Plastic Teeth	9
4. Application of Base Materials.	9
5.Application of Permanent Restorative Materials (Amalgam, Composite).	9
6.Applications on extracted human teeth.	9
7. Basic Principles of Indirect Restorations.	9
8.Simulation laboratory studies	10
Special Principles of Cavity Preparation:	
9.Applications on Plastic Teeth	16
10. Application of Base Materials.	16
11.Application of Permanent Restorative Materials (Amalgam, Composite).	16
12.Applications on extracted human teeth.	16

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ATATURK'S PRINCIPLES AND HISTORY OF TURKISH REVOLUTION

TOPIC	HOUR
1. The Nature and Importance of the Turkish Revolution	2
2. A Collective Overview of the Reasons That Prepared the Turkish Revolution	2
3. Important political and military developments that led to the disintegration of the Ottoman Empire	2
4. Disintegration of the Ottoman Empire	2
5. The situation of the country in the face of occupations and Mustafa	2
6. Mustafa Kemal's Becoming the Leader of the National Struggle	2
7. National Organization Through Congresses	4
8. Midterm Exam	2
9. Kuva-ı Milliye and Pact-ı Milli	2
10. Opening of the Grand National Assembly of Turkey and the Formation of the New Turkish State	2
11. Fronts in the National Struggle	2
12. The Western Front and Battles	2
13. Battle of Sakarya and the Great Offensive	4
14. From Mudanya to Lausanne	2
16. Strategy of the Turkish Revolution	4
17. Revolutions in the Political Field	2
18. Attempts to Transition to Multi-Party Life	2
19. Reforms in the Field of Law	2
20. Revolutions in the Field of Education and Culture	2
21. Revolutions in the Economic Field	2
22. Midterm Exam	2
23. Reforms in the Social and Health Field	2
24. Ataturk's Principles I	4
25. Ataturk's Principles II	4
26. Turkish Foreign Policy in the Era of Atatürk - I (1923-1932)	2
27. Turkish Foreign Policy in the Atatürk Era- II (1932-1938)	2
29. The Concept of Geopolitics and Turkey's Geopolitical Position	2

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TURKISH LANGUAGE

TOPIC	HOUR
Definition of language, Relationship between language and culture	3
Types of Language	3
The Birth of Languages, The Place of the Turkish Language Among the World Languages	3
Development and Historical Periods of the Turkish Language (From the Beginning to the Republic)	3
Pre-Republican studies, Studies in the Republic Era	3
Phonetics	3
Phonological Events in Turkish Phonetics	3
Vowel Reduction, Assimilation, Derivations	3
Vowel Harmony in Turkish	4
Orthographic Rules	4
Derivational and Inflectional Affixes	4
Narrative Disorders	4
Composition Knowledge	4
Types of narration	4
Thought Writings	4
Oral Narrative Types	4
General Evaluation of Selected Examples from Turkish and World Literature	4
Writing Applications and Evaluations	4