CUKUROVA UNIVERSITY

FACULTY OF DENTISTRY

1995-1996 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 - Polpulation 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 InfluencingEmbryonic 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 - Bioenesis 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 -Gathering Information from Health Sciences -Medical Informatics	2
2 - Basic Features of Health Information Systems -Data Sources for Health Data - International Data Sources, - Accessibility Data Sources in Turkey	2
3 - Measurement of the Health Level and Service Adequacy of the Society from the Data Collected in National Health Information Systems, Population-related measurements and evaluations.	2
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 Cohort Studies, Chi-Square Analysis	2
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 Fructures, 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	**HOUR**
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