

1ST YEAR

Basic Sciences Committee II

Interdisciplinary Sciences and Biophysics	Dr. N. Seyhan	2 Hr
Electric Charge, Electric Force, Electric Field (E), Electric Potential and Potential Energy, Capacity	Dr. B. Sırav	2 Hr
E current, Effects of DC current on health	Dr. B. Sırav	2 Hr
Application of Controlled Electric Current on Biological Systems	Dr. A. Canseven Kurşun	2 Hr
Magnetic Field	Dr. A. Canseven Kurşun	1 Hr
Depolarization of Heart Muscle Cells, Electrical Axis and Dipole Moment Vector of The Heart, Einthoven Triangle and Determination of the Potential Difference in Heart's Dipole Area	Dr. B. Sırav	2 Hr
Electrophoresis	Dr. B. Sırav	2 Hr
Active and Passive Transducers, Transducers in Medicine	Dr. B. Sırav	2 Hr
Use of Laser in Medicine	Dr. A. Canseven Kurşun	2 Hr

Basic Sciences Committee III

Electromagnetic (EM) Pollution: Electromagnetic Spectrum, Natural and Man Made Sources of EM Pollution	Dr. N. Seyhan	1 Hr
DC and AC Electric (E) and Magnetic (B) Fields in our Body, Permeability of Tissues to Electric and Magnetic Fields and RF Specific Absorption Rate (SAR) of tissues	Dr. N. Seyhan	1 Hr
Biological Effects of Extremely Low Frequency (ELF) E and B fields: Epidemiologic and Experimental Studies, E Field and B Field Studies at Gazi Biophysics Dept.	Dr. N. Seyhan	1 Hr
Sources of Radio Frequency (RF) /Microwave (MW) Radiation: Mobile Phones, Radars, TV and Radio Transmitters	Dr. N. Seyhan	1 Hr
Biological Effects of RF/ MW Radiation, Frequency and SAR Values of Mobile Phones		

Mobile Phone Interference with Medical Equipment	Dr. N. Seyhan	1 Hr
National and International EM Field Standards for EM Radiation Protection: General Public and Occupational Exposure Standards (Operators in Diathermy Units Etc.),	Dr. N. Seyhan	1 Hr
Practical Measures for EM Radiation Protection	Dr. N. Seyhan	1 Hr

Note: The concept given in Basic Sciences Committee IV will be given as two hours /day

Basic Sciences Committee IV

Membranes and Electrical Properties of Cells, Electrical Equivalent Cell Models	Dr. A. Canseven Kurşun	2 Hr
Reason of Biological Potential Difference: Asymmetry	Dr. A. Canseven Kurşun	2 Hr
Evaluation of Cell Potential: Nernst, Goldman, Hodgkin-Katz and Hodgkin Huxley Models and Calculation of Ion currents	Dr. A. Canseven Kurşun	2 Hr
Voltage Clamp: Measurement Technique of Ion Currents in Cells	Dr. A. Canseven Kurşun	2 Hr
Patch-clamp	Dr. A. Canseven Kurşun	2 Hr

Basic Sciences Committee V

Sound, physical characteristics and formation of sound	Dr. A. Canseven Kurşun	2 Hr
Ultrasound formation and piezoelectric phenomenon	Dr. A. Canseven Kurşun	2 Hr
Use of Ultrasound in Medicine	Dr. A. Canseven Kurşun	2 Hr
Piezoelectric structures in tissues, Recovery of bone break, Invasive and non-invasive techniques	Dr. A. Canseven Kurşun	2 Hr