COURSE SCHEDULE BIMM110.SP11

LECTURE NO. TOPIC

Lectures 1-2	Basic techniques: cloning, restriction mapping, PCR, DNA libraries, nucleic acid hybridizations, DNA sequencing
Lecture 3	Genetics in Medicine. Mendelian Genetics in Humans. Inborn Errors of Metabolism. Pedigree Analysis. Genetic Counseling
Lecture 4	Complexity of the Human Genome
Lecture 5-6	Human Cytogenetics. Karyotyping. Chromosomal Abnormalities
Lecture 7	Meiosis, Gametogenesis, Fertilization
<u>Lectures 8-9</u> ,	Transgenic animals, knock-out mice, cloning of mammals Modified animals as model systems for disease
Lecture 10	Nondisjunctions, Trisomies and Monosomies; Down's syndrome
Lecture 11	Sex Chromosomes. X-Chromosome Inactivation. Dosage compensation
Lectures 12-13	Sex Chromosomes. The Y Chromosome and SRY gene
Lecture 14	Somatic Cell Genetics. Hybrid Cells. Gene Mapping with Hybrid Panels In situ hybridization
Lectures 15-16	The Human Linkage Map. The complete Human Genome
Lecture 17	Physical map and DNA sequence
Lecture 18	Duchenne Muscular Dystrophy
Lecture 19	DMD continued;
Lecture 20	Cystic Fibrosis
Lecture 21-22	Fragile X and Trinucleotide Expansions; Huntington's disease
Lecture 23-24	Mitochondrial Diseases. Maternal Inheritance. Mitochondria, ROS and Aging
Lecture 25-26	Epigenetics and Imprinting
<u>Lecture 27- 28</u>	Genetics of Cancer. Oncogenes, Tumor Suppressors.
Lecture 29	Bioethics and Human Molecular Genetics
Lecture 30	Overflow/review