

COURSE SCHEDULE

BIMM110

LECTURE NO.	TOPIC
<u>Lectures 1-3</u>	Basic techniques: cloning, restriction mapping, PCR, DNA libraries, nucleic acid hybridizations, DNA sequencing
<u>Lectures 4-5</u>	Genetics in Medicine. Mendelian Genetics in Humans. Inborn Errors of Metabolism. Pedigree Analysis. Genetic Counseling
<u>Lecture 6</u>	Complexity of the Human Genome
<u>Lecture 7-8</u>	Human Cytogenetics. Karyotyping. Chromosomal Abnormalities
<u>Lecture 9</u>	Meiosis, Gametogenesis, Fertilization
<u>Lectures 10-11</u>	Transgenic animals, knock-out mice, cloning of mammals
<u>Lecture 12</u>	Nondisjunctions, Trisomies and Monosomies
<u>Lecture 13</u>	Sex Chromosomes. X-Chromosome Inactivation
<u>Lecture 14-15</u>	Sex Chromosomes. The Y Chromosome and SRY
<u>Lecture 16</u>	Somatic Cell Genetics. Hybrid Cells. Gene Mapping. In situ hybridization
<u>Lectures 17-18</u>	The Human Linkage Map. The complete Human Genome
<u>Lecture 19-20</u>	Duchenne Muscular Dystrophy
<u>Lecture 21</u>	Cystic Fibrosis
<u>Lecture 22-23</u>	Fragile X and Trinucleotide Expansions; Huntington's disease
<u>Lecture 24</u>	Mitochondrial Diseases. Maternal Inheritance. Mitochondria, ROS and Aging
<u>Lecture 25</u>	Epigenetics and Imprinting
<u>Lecture 27-28</u>	Genetics of Cancer. Oncogenes, Tumor Suppressors.
<u>Lecture 28</u>	Microarrays and Cancer
<u>Lecture 29</u>	Bioethics and Human Molecular Genetics
<u>Lecture 30</u>	Population Genetics. Hardy Weinberg Law. Linkage Disequilibrium (not given in SP04)

