TEACHING PLAN(2021-2022) August to December(Odd Semester)

Name of the faculty: Dr.Jyotismita Sharma

Class	Paper code	Topic	Credit point	No. of teaching days	Remarks
1st Semester	ANT-HC-1016	History of Physical Anthropology and development of modern Biological anthropology, aim, scope and its relationship with allied disciplines. Difference in the approaches of modern and traditional Biological anthropology, with emphasis on human evolution.	6	14	
		History and development of understanding human variation and evolutionary thought. Theories of evolution: Lamarckism, Neo Lamarckism, Darwinism, Synthetic theory, Mutation and Neo mutation theory, Shifting balance theory, Quantum Evolution, The Neutral Molecular Theory of Evolution, Punctuated Equilibrium Theory and Coalescent Theory		10	
		Non human primates in relation to human evolution: 1. Classification and characteristics of living primates 2. Comparative anatomy and behavior of human and non-human primates.		7	

		3. Significance of non-human primate study in Biological Anthropology			
		Great division of Humanity 1. A comparative account of various racial classifications (Hooton, Deniker, Risley and Guha) 2. UNESCO Statement on Race. 3. Recent understanding of human biological categories in the context of human genome research		10	
		Elementary genetics: Cell, Cell division, Biological basis of Inheritance, Chromosome(Structure and shape, Human Karyotype), Gene, DNA (Structure, replication), RNA, mRNA(its role in understanding human evolution)		10	
		I: Somatometric measurements: 1. Maximum head length 9. Physiognomic facial height 2. Maximum head breadth 10. Morphological facial height 3. Minimum frontal breadth 11. Physiognomic upper facial height 4. Maximum bizygomatic breadth 12. Morphological upper facial height 5. Bigonial breadth 13. Head circumference 6. Nasal height 14. Stature		7	

		7. Nasal length 15. Sitting height 8. Nasal breadth 16. Body weight 17. Total Upper Extremity length 18. Total Lower Extremity length			
		2: Somatoscopic observation: 1. Head form 2. Hair form 3. Facial form 4. Eye form 5. Nose form 6. Hair colour 7. Eye colour 8. Skin colour		3	
				2	
3rd Semester	Paper-ANT-HC-3026	i..Definition and concept of the term ecology, human ecology, ecosensitivity adaptation, acclimation, acclimatization, biotic and abiotic component. ii. Method of studying ecology	6	14	
3rd semester		Bio-cultural adaptation to environmental stresses: heat, cold and altitude. Homeostasis and thermoregulation. Ecological rules and their applicability among human beings (Gloger's, Allen's and Bergmann's rule).		15	
3rd Semester		Impact of urbanization and industrialization on Man.		10	

3rd Semester		Bio-cultural factors influencing the diseases and nutritional status.Evolution of Human diet.		8	
3rd Semester		Culture as a tool of adaptation; Various modes of human adaptation in pre-state societies. i. Hunting and food gathering ii. Pastoralism iii. Shifting cultivation		2	
3rd Semester		Ecological themes of state formation: i. Neolithic revolution, ii. Hydraulic civilization		2	
3rd Semester		Agriculture and peasantry; Industrial civilization and growth of urban societies Impact of urbanization and industrialization on Man.		2	
3rd semester	ANT-HC-3026	A. Biological Dimensions: Indices 1. Body Mass Index 4. Relative Upper Extremity Length Index 2. Ponderal Index 5. Relative Total Lower Extremity Length Index 3. Relative Sitting Height Index 6. Nasal Index	6	14	
		Cardiovascular function: Blood pressure, heart rate, pulse rate		2	

		Project		5	
3rd Semester	ANT-HC-3036	Concept of Biological Variability, Sources of Genetic Variation, Interpretation of Human Variation, Genetic Polymorphism (Serological, Biochemical and DNA markers).		10	
		i. Classical approaches of classifying human population: Racial groups of mankind and racial criteria. ii. A critical appraisal of contribution of Risley, Guha, Rickstett and Sarkar towards understanding ethnic elements in the Indian populations.		14	
		Pre and Proto historic racial elements in India. Linguistic classification of Indian population.		10	
		Genetic diversity among Indian Population.		10	
		Recent understanding of human biological categories in the context of human genome research.		7	
		Demographic Perspective Demographic Anthropology; Sources of Demographic Data, Demographic Processes, Demographic profile of Indian populations and its growth structure.		7	

3rd semester		1. Craniometric Measurements (Skull and Mandible) Students should be trained for identifying landmarks on the skull, taking accurate measurements on at least 3 skulls by following standards techniques. I. Linear measurements: Maximum cranial length Maximum cranial breadth Maximum bizygomatic breadth Maximum frontal breadth Minimum frontal breadth Nasal height Nasal breadth Bi-mastoid breadth		5	
		Angular measurements Greatest occipital breadth Upper facial height Bi-maxillary breadth Outer bi-orbital breadth Inner bi-orbital breadth Greatest Occipital breadth Glabella-inion length Nasion-inion length Nasion-basion length Nasion-prosthion length Frontal chord Parietal chord Occipital chord		8	
		Curvilinear or arc measurements		7	

		Frontal arc Parietal arc Occipital arc sagittal cranial arc Horizontal circumference of head Metopic angle Facial profile angle Nasal profile angle Alveolar profile angle			
		Collection of demographic data from primary or secondary sources(Project)		7	
5th Semester		Essentials of Genetics Landmarks in the history of genetics, principles in human genetics, single locus (Mendelian) versus multilocus (quantitative/complex) inheritance, chromosome theory of inheritance (segregation and independent assortment) Mendelian inheritance (single factor and multifactorial inheritance), Non- Mendelian inheritance (multiple allelism, Co-dominance; sex linked, sex limited, sex controlled, epistasis; penetrance and expressivity; Cytoplasmic inheritance)		6	

		Ecological Genetics and Polymorphism Phenotypic & genotypic polymorphisms, transient polymorphism, balanced polymorphisms, models explaining the maintenance of genetic polymorphism (Relationship between sickle cell and malaria, X-linked polymorphism, selection due to infectious diseases and its association with blood groups and other)		5	
		Hardy-Weinberg principle: Concept, Assumptions of Hardy Weinberg equilibrium, its applications and exceptions		10	
		Mechanism for dynamics in Gene Frequency: Mutation, selection (pattern and mechanism), Genetic drift (bottle neck and founder effect), Gene flow/migration, inbreeding and its consequences.		6	
		Population structure and admixture in human populations. Random & non-random mating (positive and negative assortative mating), heritability.		10	
		ABO and Rh (D) Blood groupings: Student should be trained in determining ABO and Rh blood groups of at least 5 individuals by following standard procedure.		12	
		Testing of Colour Vision (Color Blindnes): Ishihara's Chart should be used to		10	

		determine the colour blindness. Inferences should be recorded on at least 5 subjects.			
		PTC test: Student should be trained to test PTC testing ability in at least 5 individuals following standard procedure.		2	