GyanmanJari
Innovative University

Subject: Forensic Anthropology- MSCFS13514

Type of course: Major

Prerequisite: Students should have a basic knowledge of human anatomy, biology, and chemistry, along with an understanding of anthropology and forensic science.

Rationale: The rationale for forensic anthropology lies in its vital role in identifying human remains and determining the cause and manner of death in legal contexts. By applying biological anthropology techniques, forensic anthropologists assist law enforcement, legal professionals, and humanitarian efforts in solving crimes, locating missing persons, and documenting human rights violations.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks		Practical Marks		CA	
CI	T	P	C	ESE	MSE	V	P	ALA	
4	0	0	4	60	30	10	00	50	150

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

4 Credits * 25 Marks = 100 Marks (each credit carries 25 Marks) Theory
SEE 100 Marks will be converted in to 50 Marks
CCE 100 Marks will be converted in to 50 Marks

Course Content:

Unit No.	Course content	Hrs	% Weight age
1	**Introduction to Forensic Anthropology:** Introduction, definition, history and development of forensic anthropology, American Board of Forensic Anthropology, forensic anthropologist, classic and modern roles of Forensic anthropologist: Recovery of Human Remains/Scene of Crime, Determining PMI, Determining the Human Origin of Remains, Building the Biological Profile, Craniofacial Reconstruction, Personal Identification of Human Remains, Assisting in the Determination of Cause and Manner of Death, Mass Disasters.	15	25
2	**Establishment of complete and partial identification:** Introduction, Morphometric techniques: Racial affinity, Age, Sex, Stature, Surgical artifacts, Burnt bones;Other bodily identifications: Somatometric and Somatoscopic Identification, Skeletal System, Retina and Iris, Ear, Fingerprints.	15	25
3	**Personal identification :** Introduction to Bertillonage system, portrait parle, ideal portrait parle, Determination of sex from skull, Determination of sex from pelvis, Determination of sex from long bones, Determination of sex from other skeletal remains. Determination of age from cranial sutures, Determination of age from dentition, Determination of age from epiphyseal union of long bones, stature determination, time of death of individual, skeletal injury.	15	25
4.	**Forensic Odontology:** Definition, history, human dentition, bite-marks: methods of collection, preservation, recording, forensic significance of bitemarks, variations in the bitemarks: Central Contusion, Sunburst Pattern, Avulsive Bites, Multiple Bites, Single-Arched Bites/One-Sided Bites, Toothless Bitemarks, taphonomy, necrology and decomposition.	15	25

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1.	**Historical Timeline Challenge** Students will create a detailed timeline of the history and development of forensic anthropology. They will research key events, major discoveries, and the founding of the American Board of Forensic Anthropology, then plot them on a visual timeline to understand the field's evolution.	10
2.	**Somatometric and Somatoscopic Profile Building** Students will measure and record various body metrics (such as limb length and circumference) and create a somatometric profile. They will also sketch a somatoscopic profile based on body shape, considering the relationship between body measurements and skeletal features.	10
3.	**Fingerprint and Iris Comparison** Using printed examples of fingerprints and iris patterns, students will compare these to skeletal remains (e.g., teeth, bones) and discuss their usefulness in identification. They will write a short paper on how these methods complement skeletal identification techniques in establishing personal identity.	10
4.	**Sex Determination from Skeletal Remains** Using printed images of skeletal elements (skull, pelvis, and long bones), students will determine the sex of the individual by analyzing the characteristics of each bone. They will then write a detailed report discussing their observations and the anatomical differences used for sex determination.	10
5.	**Human Dentition Identification** Students will study images of human dentition and identify various dental features such as the types of teeth (incisors, canines, molars), their wear patterns, and their potential significance in forensic investigations. They will write a short report on how human dentition can be used for identification in a forensic case.	10
Total		**50**

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	30%	30%	30%	10%	00	00

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcome:

After learning the course the students should be able to:	
CO1	Understand the role of forensic anthropologists in mass disaster scenarios and humanitarian efforts.
CO2	Differentiate between various identification markers and evaluate their reliability and applicability in forensic casework.
CO3	Assess stature and postmortem interval (time of death) using skeletal remains and standard anthropological methods.
CO4	Analyze taphonomic changes, necrology, and decomposition processes affecting dental and oral evidence.

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

[1] Fundamentals of Forensic Anthropology by Linda L. Klepinger, Wiley-Blackwell, 2006.

[2] Forensic Anthropology: Current Methods and Practice by Angi M. Christensen, Nicholas V. Passalacqua, Eric J. Bartelink, Elsevier Academic Press, 2016.

[3] Introduction to Forensic Anthropology by Steven N. Byers, Pearson, 2016.

[4] The Human Bone Manual by Tim D. White and Pieter A. Folkens, Academic Press, 2011.

[5] Forensic Anthropology: An Introduction by MariaTeresa A. Tersigni-Tarrant & Natalie R. Shirley, CRC Press, 2019.