

## Forensic Anthropology

### DISCIPLINE SPECIFIC ELECTIVE COURSE -3 (DSE-3) – Forensic Anthropology

#### CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical / Practice		
Forensic Anthropology DSE-3	- 04	03	00	01	Passed 12 <sup>th</sup> with Science	NIL

#### Learning Objectives

- To understand the basic tenets and applications of forensic anthropology
- To learn the methods and techniques involved in solving the criminal cases
- To appreciate the recent developments in the field of forensic anthropology

#### Learning Outcomes

- Student should be able to identify and collect the biological materials found at crime scenes
- Student should be able to use the methods and techniques in forensic anthropology
- Student should have the understanding of current knowledge of latest developments in forensic anthropology

#### Syllabus of DSE-3

##### Unit 1 (08 hours)

Introduction to Forensic Anthropology: Definition, Brief History, Scope, Applications and relationship with other sciences

##### Unit 2 (09 hours)

Basic Human Skeletal Biology, Identification of Human and Non-Human Skeletal Remains, Ancestry, age, sex and stature estimation from bones.

##### Unit 3 (11 hours)

Personal Identification, Complete and Partial Identification, Methods of Identification in Living Persons: Somatometry, Somatoscopy, Occupational Marks, Scars, Bite Marks, Tattoo Marks, hair, fingerprints, footprints, lip prints, nails, handwriting, deformities.

##### Unit 4 (08 hours)

Serology: Identification and Individualization of bloodstains, urine, semen and saliva strains.

## **Unit 5 (09 hours)**

Individualization: Forensic Odontology-Tooth Structure and Growth, Bite Marks, Facial Reconstruction. DNA Profiling.

## **Practical (30 Hours)**

1. Study of human long bones. Estimation of age, sex and stature from bones.
2. Somatometric and Somatoscopic Observation on living persons.
3. Identification of bloodstain, urine, semen and saliva.
4. Examination of Fingerprints and Handwriting.

## **References**

A M Christensen et al. (2014). Forensic Anthropology: Current methods and Practice. Elsevier, New York. [Unit-1: Page-1-10; Unit-2: Page- 25-50; 199-216, 243-274]

ARW Jackson and JM Jackson (2011). Forensic Science, 3rd edition. Pearson, New York. [Unit-3: Page-61-65; 107-126; 254-260]

Bass W.M. (1971). Human Osteology: A Laboratory and Field manual of the Human Skeleton. Columbia: Special Publications Missouri Archaeological Society.

Black S. and Ferguson E. (2011). Forensic Anthropology 2000 to 2010. CRC Press, London. Byers, S. N. (2008). Forensic Anthropology. Boston: Pearson Education LTD.

Gunn A. (2009) Essential Forensic Biology (2nd ed). Chichester: Wiley-Blackwell. [Unit-4: Page-45-82; Unit-5: Page-85-97]

Modi, R. B. J. P. (2013). A Textbook of Medical Jurisprudence and Toxicology. Elsevier. Reddy V. R. (1985). Dental Anthropology, Inter-India Publication, New Delhi.

Spencer, C. (2004). Genetic Testimony: A Guide to Forensic DNA Profiling, Pearson, New Delhi.

Vats Y., Dhall J.K. and Kapoor A.K. (2011). Gender Variation in Morphological Patterns of Lip Prints among some North Indian Population. J. Forensic Odontology, 4: 11-15.

Wilkinson, C. (2004). Forensic facial reconstruction. Cambridge University Press. Klepinger LL (2006). Fundamentals of Forensic Anthropology. Wiley-Liss Publications

Forensic Anthropology Laboratory Manual 4Th Edition 2016 Edition by Steven N. Byers, T&F India.

Forensic Anthropology: A Comprehensive Introduction 2Ed (Hb 2017) by Langley N.R., Taylor & Francis.

## **Additional Resources:**

Modi, R. B. J. P. (2013). A Textbook of Medical Jurisprudence and Toxicology. Elsevier. 6. Reddy V.

R. (1985). Dental Anthropology, Inter-India Publication, New Delhi.

Spencer, C. (2004). Genetic Testimony: A Guide to Forensic DNA Profiling, Pearson, New Delhi.

Wilkinson, C. (2004). Forensic facial reconstruction. Cambridge University Press.

Black S. and Ferguson E. (2011). Forensic Anthropology 2000 to 2010. CRC Press, London.

### **Teaching Learning Process**

The process of learning will involve the acquisition of subject knowledge and understanding of the skills required for a forensic anthropologist. The learning process will involve lectures, submission of assignments, classroom discussions, reliably conducting the experiments and inferring the results.

### **Assessment Methods**

The theoretical understanding of the student will be assessed using time constrained examination. The assessment of the practicals will be based on conducting the experiment and presenting the results in appropriate manner.

### **Keywords**

forensic, personal identification, DNA profiling, fingerprints

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.