



**COURSE CURRICULUM**

**Course Title:** GENERAL FORENSIC SCIENCE

**Course Code:** FSIC 605

**Credit Units:** 3

**Course Level:** PG

**Course Objectives:** The course focuses on following objectives:

- Developing an understanding and appreciation for the scope of Forensic Sciences and its role in investigative system.
- Develop an understanding on Quality management and its significance.
- Brief description on various fields of Forensic sciences – Toxicology, Bio-serology, Ballistics, Questioned documents and Fingerprints.

**Pre-requisites:** No Pre-requisite.

L	T	P/S	SW/F W	TOTAL CREDIT UNITS
3	0	0	0	3

**Course Contents/Syllabus:**

	Weightage (%)
<b>Module I : Introduction to Forensic Science and Quality Management (ISO/IEC 17025)]</b>	
<b>Descriptors/Topics</b> Introduction and History of Forensic Science, Basic principles and significance, Utilization of Forensic Science, Forensic Scientist at the scene of crime, Structure of Forensic Labs, General requirements for the competence of testing and calibration laboratories - Introduction, Scope, Management requirements: Organization, Quality System, Document Control, Service to the clients, Complaints, Corrective and preventive actions, Control of records, Internal Audits etc.	20
<b>Module II : Toxicology</b>	
<b>Descriptors/Topics</b> Definition, dosage, administration of poisons, Classification of poisons, action of poisons & factors modifying its action, Drugs of Abuse, Signs and symptoms of addiction, Role of toxicologists, Significance of toxicological findings, Functions and roles of toxicologists in a forensic science lab, Techniques used in toxicology examination.	20
<b>Module III : Forensic Biology &amp; Serology</b>	
<b>Descriptors/Topics</b> Definition & Scope of Forensic Biology & Serology, Nature & Type of Biological evidences (Both animal & plant origin), various body fluids, their composition & Forensic Importance: Blood, Semen, Saliva, Urine, milk etc. Types of blood groups, DNA profiling.	20
<b>Module IV : Forensic Ballistics</b>	
<b>Descriptors/Topics</b> Introduction: Ballistics (Internal, terminal and external), Firearm and its parts, ammunition, types of ammunition, various components of ammunitions (Primary charge, Main charge, Projectiles and their types, wads, lubricants etc.), Rifling, Firing	20

mechanism, Forensic identification of firearms.	
<b>Module V : Questioned Document &amp; Fingerprints</b>	
<b>Descriptors/Topics</b> Introduction: Documents, Questioned document, Handwriting and its characteristics (Class and Individual), Principles of Identification, Types of cases in Questioned Documents, Introduction: Fingerprints, types of fingerprints, ridge characteristics, ridge details, ridge counting and tracing, locating, searching and lifting of fingerprints, significance of Fingerprints.	<b>20</b>

**Student Learning Outcomes:** The students will develop an understanding of:

- Forensic Science and its associated fields.
- Describe quality Management System and its significance in Forensic Science.
- Analyze questioned Documents
- Analyze and compare Fingerprints.

**Pedagogy for Course Delivery:**

This course will be taught in active-learning mode, featuring both lectures and presentations on requirement, which will provide students the vast knowledge of subject, enhance their reasoning skills and provide them abundant opportunity to express their opinions

**Lab/ Practicals details, if applicable: NA**

**Assessment/ Examination Scheme:**

Theory L/T (%)	Lab/Practical/Studio (%)	Total (%)
<b>100</b>	<b>0</b>	<b>100</b>

**Theory Assessment (L&T):**

Continuous Assessment/Internal Assessment				End Term Examination
Components (Drop down)	A	H	CT	
Weightage (%)	5	10	15	70

**Text Reading & References:**

- Suzzane, B., Encyclopedia of Forensic Science, Revised edition, Library of Congress cataloging- in -publication data, 2008.
- Saferstein, Richard, Criminalistics, An Introduction to Forensic Science, 6<sup>th</sup> Ed. Prentice-Hall, New Jersey, 1998.
- Bodziak, W., Footwear Impression Evidence (2<sup>nd</sup> Edn.) CRC Press, Boca Raton, Florida, 2000.
- DeForest, P., Gaensslen, R., and Lee, H., Forensic Science; An Introduction to Criminalitics, McGraw Hill, New York, 1983.
- Nabar, B. S., Forensic Sciene in Crime Investigation, Asian Law House, 2001.
- Fisher, B., Techniques of Crime Scene Investigation (6<sup>th</sup> Edn.) CRC Press, Boca Raton, Florida, 2000.
- James, S. H. And Nordby, J. J. (Eds), Forensic Science - An Introduction to Scientific and Investigative Techniques, CRC Press, London, 2003.
- James, S., and Eskerc, W., Interpretation of Blood Stain Evidence at Crime Scenes, (2<sup>nd</sup> Edn) CRC Press, Boca Raton, Florida, 1999.
- Sharma, B. R., Forensic Science in Criminal Investigation and Trials (3<sup>rd</sup> Edn) Universal Law Publishing Co. Ltd. New Delhi, 2001.
- Cummins, H. and Midlo, C.: Fingerprints, Palms and Soles.
- Bridges, B.C.: Practical Fingerprinting
- Holt, S.B.: Genetics of Dermal Ridges