



Anand Law College

(An Autonomous Institute, Under UGC Regulation 2023) Managed by
 Shri Ramkrishna Seva Mandal, SRKSM Campus, Near Electric Grid, Anand, Gujarat
 (Affiliated to S. P. University & Approved by BCI, New Delhi) NAAC Accredited, 'B++'
 Grade, CGPA 2.97 - 1st Cycle



Name of the Course : One Year LLM Group : Criminal and Corporate Law	Type of Course : CBCS
Year : 1 st Year	Semester : 3 rd (Trimester)
Subject Code : ALCPG3SCSL2	Subject : FORENSIC SCIENCE AND CRIMINAL INVESTIGATION
W.E.F. : 2025-26	Teaching Hours : 30 Hours

Teaching & Examination Scheme :

Credit	Lec	Lab	Tut	Internal Marks			External Marks		Passing Marks	Passing Marks	Total Marks
				T	P	CE	T	P	Internal	External	Int+Ext
2	2	-	-	30	-	10	60	-	16/40	24/60	40/100

Lect = Lecture, Tut = Tutorial, Lab= Lab,T=Theory,P=Practical Theory Passing % :40, Practical Passing %:40

Course Objectives	<ol style="list-style-type: none"> To equip students with a comprehensive understanding of forensic science principles and their application within the framework of the Bharatiya Nyaya Sanhita (BNS) and Bharatiya Nagarik Suraksha Sanhita (BNSS). L2 - Understanding / L3 - Applying To provide in-depth knowledge of the Standard Operating Procedures (SOPs) required to maintain the Chain of Custody, ensuring that evidence remains untainted from the crime scene to the courtroom. L3 - Apply To critically examine the tension between advanced investigative techniques (like Narco-analysis and DNA profiling) and the fundamental rights guaranteed under Article 20(3) of the Indian Constitution. L5 - Evaluate To train students in the legal nuances of seizing, preserving, and presenting digital evidence (IoT, Cloud, and Social Media) under the new provisions of the Bharatiya Sakshya Adhiniyam (BSA). L3 - Apply To prepare students to effectively engage with, examine, and cross-examine expert witnesses by understanding the limits and "error rates" of various forensic disciplines. L6 - Creat To analyze the evolution of forensic jurisprudence through landmark Judicial Decisions, enabling students to predict how courts will interpret scientific evidence in a modern trial setting. L6 - Creat
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Course Outcome	<ol style="list-style-type: none"> Demonstrate a profound understanding of the intersection between the Bharatiya Sakshya Adhiniyam (BSA) and forensic science, specifically regarding the admissibility of expert testimony. Critically evaluate the Standard Operating Procedures (SOPs) for crime scene management and the "Chain of Custody" required under the BNSS. Analyze the legal and ethical boundaries of invasive investigative techniques (Narco/Polygraph) in light of Article 20(3) and landmark judicial precedents like <i>Selvi v. State of Karnataka</i>. Interpret the complexities of digital evidence, including IoT, Cloud, and Cryptocurrency, and apply the relevant provisions of the BNS to cyber-forensic investigations. Assess the evidentiary value of DNA profiling, Toxicology reports, and Medico-legal autopsies to formulate effective legal arguments in criminal trials.
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Detail of Syllabus : FORENSIC SCIENCE AND CRIMINAL INVESTIGATION

Teaching Hours : 30 Hours

Module	Description	Credit
1.	Foundations of Forensic Science	15 % (2) 7 Hours
1.1	Definition, history, and development of Forensic Science	
1.2	Law of Individuality, Principle of Exchange (Locard), Law of Probability	
1.3	Forensic Science Laboratories (FSL), CFSL, GEQD, and Fingerprint Bureaus in India.	
1.4	Professional standards and the role of an expert witness in the court of law	
1.5	Expert Testimony under Bharatiya Sakshya Adhinyam (BSA) (formerly Section 45, IEA). Standard Operating Procedures (SOPs) for maintaining judicial integrity	
1.6	The role of Forensic Sciences in Criminal Cases.	
1.7	The basic question in investigation- Qui Bono;	
1.8	The scene of crime;	
1.9	Discovery of traces of physical evidence;	
1.10	Classification and reference to classified record:	
1.11	Systematization and classification of physical evidence	
1.12	comparison with suspected material;	
1.11	The principles of exchange;	
1.12	Judicial Decision	
2.	The Establishment of Identity	15 % (2) 7 Hours
2.1	The Establishment of Identity of Individuals:-	
2.2	Footprints: hair, skin, blood grouping; physical, peculiarities.	
2.3	The Establishment of the Identity of Physical Objects by shape and size: Identifying marks and impressions made by physical objects, shoe prints, type and tread marks, die and tool marks, upture of fracture marks	
2.4	The Establishment of the Identity of Physical Objects by Physical and Chemical Analysis: Paints, coloured objects, Meta, alloys, chain and the earthen wares, cements, Plaster, bricks, dusts, soil, minerals, plastics.	
2.5	The Identification of Fire-Arms and Cartidges and Related Problems	
2.6	Type of fire-arms and their use; time and range of firing;	
2.7	Identification of a fire-arm with a cartridge case and bullet;	
2.8	Miscellaneous fire-arm problems like origin or direction of Fire	
2.9	Evidentiary value of details of injuries	
2.10	Traces left by the weapon used its range and direction	
2.11	Danger to clothing worn by the victim and related problems	
2.12	The flow of blood from injuries;	
2.13	The shape and directions of blood drops and their evidentiary value,	



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	the discovery of blood and semen stains on various objects	
2.14	Accidental deaths and suicides	
2.15	Judicial Decision	
3.	Evidentiary value of Physical Evidence as Evaluated a Forensic sciences laboratory viz, Evidence with scientific report	
3.1	Fallibility of eye witnesses.	
3.2	The probative value of such evidence Findings of scientific methods of investigation their probative value.	
3.3	Assessment of value from actual cases.	
3.3	Value to be assigned to the different types of exhibit , Restoration of numbers	
3.4	Examination of the walking, picture of footprints, clothing, copper wire, pieces of wood etc	15 % (2) 7 Hours
3.5	Modern scientific Techniques	
	Modern scientific Techniques of Narco-Analysis Tests, Polygraph test, Brain Mapping Test, hypnotism,Lie Detector Test & others	
3.6	Judicial Decision	
4.	Digital Forensics & Legal Framework	
4.1	Collection and seizure of digital evidence from computers, mobiles, and networks.	
4.2	Relevant sections of the Bharatiya Nyaya Sanhita (BNS) and Bharatiya Sakshya Adhinyam (BSA)	
4.3	Admissibility of forensic evidence under Section 45 of the Evidence Act (and corresponding new laws).	15 % (2) 7 Hours
4.4	Investigating IoT devices, Cloud storage, and Mobile forensics.	
4.5	Tracking Cryptocurrency laundering, Social Media Intelligence (SOCMINT) and OSINT tools.	
4.6	Forensic Software and Hardware,	
4.7	Analysis and Advanced Tools, Forensic Technology and Practices	
4.8	Judicial Decision	

Suggested Reference

Bevel, T., & Gardner, R. M. (2018). *Bloodstain pattern analysis with an introduction to crime scene reconstruction* (3rd ed.). CRC Press.

Carrier, B. (2005). *File system forensic analysis*. Addison-Wesley Professional.

Casey, E. (2011). *Digital evidence and computer crime: Forensic science, computers, and the internet* (3rd ed.). Academic Press.

Gaur, K. D. (2024). *Textbook on the Bharatiya Nyaya Sanhita*. Universal Law Publishing.

Houck, M. M., & Siegel, J. A. (2020). *Fundamentals of forensic science* (4th ed.). Academic Press.

James, S. H., Nordby, J. J., & Bell, S. (2014). *Forensic science: An introduction to scientific and investigative techniques* (4th ed.). CRC Press.



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Nanda, B. B., & Tiwari, R. K. (2001). *Forensic science in India: A vision for the twenty-first century.*
Select Publishers.
Sarkar, P. C. (2024). *Sarkar's law of evidence: In the light of Bharatiya Sakshya Adhinyam, 2023* (20th ed.). LexisNexis.
Sharma B.R. : Forensic Science.
Forensic Science in criminal Investigation Dr. Jaishankar And Amin
Fundamentals of Forensic Science by Max M. Houck, Jay Siegel
Forensic Science In Criminal Investigation And Trials : Sharma
Modern Criminal Investigation: Harry Soderman and John J. O. Conell (Published by Funk & Wagnalls Co.Inc.,New York)
Criminal Investigation: Paul L. Kirk, ph.D. (Published by inter science publishers, Inc.,(New York).
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Forensic chemistry and scientific criminal investigation.: Lucas A.
Methods of forensic science (Vol.I)

Online Reference

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2. <https://www.dfs.nic.in>
3. <https://dfrws.org>
4. <http://www.liiofindia.org/>
5. <https://epgp.inflibnet.ac.in/>
6. <https://ncrb.gov.in/>