



**Gyanmanjari**  
Innovative University

Course Syllabus  
Gyanmanjari Science College  
Semester-4 (B.Sc)

Subject: Forensic Questioned Documents – BSCFS14304

Type of course: Major

**Prerequisite:** Basic knowledge of forensic science, document types, and investigative techniques, including handwriting analysis and evidence collection.

**Rationale:** This syllabus trains students to analyze and authenticate documents, detect forgeries, and identify alterations, essential for criminal investigations and legal processes.

#### Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P	C	SEE		CCE			
				Theory	Practical	MSE	LWA/V	ALA	
3	0	2	4	75	25	30	20	50	200

*Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester End Evaluation; MSE- Mid Semester Examination; LWA - Lab Work Assessment; V – Viva voce; CCE-Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.*

#### Course Content:

Unit No	Course Content	Hrs	Weightage
1	<b>Basic Tools and Techniques of Questioned Documents</b> Basic terminologies in questioned documents; Types of questioned documents; Care and handling of questioned documents; Preliminary examination of documents; Basic tools needed for forensic examination of questioned documents: measuring tools, magnification tools, Video Spectral Comparator (VSC), Electrostatic Detection Apparatus (ESDA); Light sources: ultraviolet, visible, infrared light; Photomicrography.	12	28%
2	<b>Examination of Handwriting and Signature</b> Basis of handwriting identification. Characteristics of handwriting – scope and application. Class and individual characteristics. Arrangement, alignment, margin, slant, speed, pressure, spacing, line	12	28%





	quality, embellishments, movement and pen lifts. Factors influencing handwriting – physical, mechanical, genetic, and physiological Basis of handwriting comparison. Collection of handwriting samples. Forgery detection. Counterfeiting. Examination of altered and erased documents. Tools used in handwriting examination Basis of handwriting recognition. Off-line and on-line handwriting recognition. Steps involved in handwriting recognition – preprocessing, feature extraction, and classification. Applications of handwriting recognition Authentic Signatures, forged signatures, disguised signatures, traced signatures, and their characteristics.		
3	<b>Context cases in Questioned Documents</b> Alterations in documents: erasures, additions, over-writings, cutting and obliterations; Secret writing: methods and decipherment; Charred documents: collection, preservation and decipherment; Forgery and its types; Disguised writing and its methods; Analysis of forged and disguised documents; Anonymous letters: introduction and examination.	12	28%
4	<b>Comparison and analysis of Documents</b> Exemplar: types (requested and non-requested), merits and demerits; Collection of standards for comparison of handwritings, signatures, printed documents, photocopied documents and typed documents; Process of comparison of handwriting and signature; Determining the age and relative age of documents; Examination of printed documents, typed documents and photocopied documents; Examination of counterfeit Indian currency notes passports, and stamp papers.	9	16%

**Continuous Assessment:**

Sr. No	Active Learning Activities	Marks
1	<b>Ink and Impressions</b> Students will collect various ink samples (from pens or printers) and compare those using magnifying tools. They will also examine different paper types to identify watermarks, fibers, or any other distinguishing marks and will upload it on GMIU web Portal.	10
2	<b>Decoding the Scribble</b> Faculty will provide students with a variety of handwriting samples. Ask them to identify and document characteristics like slant, speed, pressure, spacing, and alignment. They will classify these traits into class characteristics (e.g., all people in specific region writing with a similar slant) and individual characteristics (e.g., unique quirks of an individual's handwriting) and then upload it on GMIU web Portal.	10





3	<b>The Fake and the Real</b> Faculty will provide students with both authentic and forged documents. Students will examine the documents for signs of forgery, such as mismatched ink, pressure inconsistencies, or unusual writing techniques. They will prepare a report on their observations and will upload it on GMIU web Portal.	10
4	<b>Printed, Photocopied, or Typed?</b> Faculty will present students with a set of documents that include handwritten, printed, photocopied, and typed texts. Students will use magnifying tools, light sources, and other techniques to identify the distinct features of each type (e.g., typeface in typed documents, toner patterns in photocopies, and ink variations in printed documents). They will document their findings and upload it on GMIU web Portal.	10
5	<b>Attendance</b>	10
Total		50

**List of Practical:**

Sr. No	Descriptions	Unit No	Hrs
1	Preliminary examination of questioned documents	1	4
2	Determination of sequence of strokes.	1	2
3	Identification and comparison of handwriting.	1	4
4	Identification and comparison of signature.	2	2
5	Detection of forgeries (simulated and traced forgery).	2	4
6	Detection of erasures and obliterations.	3	2
7	Collection and preservation of charred documents.	3	4
8	Identification of characteristics of printed documents.	4	4
9	Examination of security features of Indian currency notes.	4	2



10	Examination of security features of Passport	4	2
		Total	30

### Suggested Specification table with Marks (Theory):75

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	25%	25%	25%	20%	5%	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	Identify and classify different types of questioned documents.
CO2	Compare handwriting and signatures for authenticity and detect forgeries.
CO3	Decipher secret writing using various methods.
CO4	Analyze counterfeit Indian currency, passports, and stamp papers for authenticity.

### 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] Forensic Document Examination: Principles and Practice By: K. M. Koppenhaver © Humana Press Inc.
- [2] Forensic Document Examination: Principles and Practice By: Max M. Houck and Jay A. Siegel.
- [3] Forensic Handwriting Identification: Fundamental Concepts and Principles By: Jane Lewis.
- [4] Document Examination: A Forensic Science Handbook By: Michael D. L. Paine.
- [5] The Forensic Examination of Questioned Documents By: William G. Eckert.
- [6] Forensic Document Analysis: A Guide to the Identification and Analysis of Handwriting and Other Documents By: John H. Schultz.

