



DR. CARLOS S. LANTING COLLEGE

Department of Criminology

16, Tandang Sora Ave., Sangandaan, Novaliches, Quezon City
Tel. No. (02) 938-7782 / (02) 938-7789 Telefax No. (02) 939-7229
Email: info@lantingcollege.edu.ph Website: www.lantingcollege.edu.ph



OUTCOME BASED COURSE SYLLABUS (Detailed Teaching Plan) Flexible Learning

B.S. in Criminology
SY 2021-2022

- I. **Course Title** : **Forensic Chemistry and Toxicology**
- II. **Course Code** : **Forensic 3**
- III. **Course Description** : This course provides an overview of the major disciplines of forensic chemistry and forensic toxicology, with examples to demonstrate their specific contributions to identification, collection, preservation, analysis, examination, presentation, and biological and chemical analysis of physical evidence for the effective dispensation of justice.
- IV. **Course Credit** : **Units: 5**
- | | | | |
|----------------|-----------------------|--------------------------|------------------------|
| (Face-to-Face) | Lecture Hrs: 3 | Laboratory Hrs: 2 | |
| (Flexible) | Lecture Hrs: 3 | Laboratory Hrs: 1 | Coaching Hrs: 1 |
- V. **Prerequisite(s)** : **Forensic 2**

VI. Institutional Vision and Mission Statements:

VISION

DCLC aims to be one of the country's leading colleges in providing quality education.

MISSION

To produce competent graduates who can contribute to nation building

VII. Course Learning Outcomes (CLO):

Upon completion, students are able to

- CLO 1. Enumerate and illustrate scientific approach in search, collecting, packing and preservation of physical evidence
- CLO 2. Conduct of examination of blood, semen, fibers, hair, soil, gun powder residue, explosives, saliva, feces, inks and other physical evidence;
- CLO 3. Examination and recognition of Dangerous drugs;
- CLO 4. Understand the principles of forensic toxicology;
- CLO 5. Identify common poisons, their classification, effects to the human body, and antidotes; and
- CLO 6. Execute appropriate scientific instrumentation in analysis, comparison and evaluation of physical evidence.

VIII. Course Outline :

Meeting	COURSE LEARNING OUTCOME (CLO)	Specific Topic	INSTRUCTIONAL DELIVERY				TEACHING LEARNING ACTIVITIES	ASSESSMENT TASK
			ASYNCHRONOUS	SYNCHRONOUS STUDENT TASK		MENTORING / COACHING (FACULTY TASK)		
				Activity/Task	Performance-Based			
1	CLO 1 CLO 2 CLO 4	Class Orientation and Introduction to Forensic Chemistry. Scope of Forensic Chemistry Golden Rules in the practice of Forensic Chemistry	Watch the recorded lecture Answer the assessment task	Online lecture Interactive discussion	Students must be able to: know the DCLC Vision, Mission and core values Explain the Role of Chemistry in Forensic Science Identify the stages in the practice of forensic Chemistry Enumerate the scope of forensic Chemistry Discuss how each area contributes to investigation.	Individual coaching	Cisco Webex, Google Classroom	Reflection Paper : My expectations
2	CLO 2	Examination of Blood and other bodily fluids	Watch the recorded lecture Answer the assessment task	Online lecture Interactive discussion	Discuss the proper procedure in the collection of blood and blood stains in criminal investigation. Identify the component of human blood	Conduct small group session	Powerpoint Presentation Laboratory specimen	Written and Oral Examination Recitation

					<p>Explain the steps in the conduct of examination of blood</p> <p>Enumerate bodily fluids that can be analyzed in the laboratory.</p> <p>Identify and characterized Semen and discuss different methods used in examination of seminal fluid.</p>		<p>Video Presentation</p> <p>Recorded lecture</p> <p>Cisco Webex,</p> <p>Google Classroom</p>	
3	<p>CLO 2</p> <p>CLO 4</p> <p>CLO 6</p>	<p>Examination of Hair and Fibers</p> <p>Identify the parts of human hair and their importance in investigation.</p> <p>Difference between human and animal hair Classification of fibers</p>	<p>Watch the recorded lecture</p> <p>Answer the assessment task</p>	<p>Online lecture</p> <p>Group work</p> <p>Interactive discussion</p>	<p>Identify hair, Its parts and their significance in investigation.</p> <p>Compare human from an animal hair</p> <p>Identify and differentiate the kinds of fibers</p>	<p>Individual coaching</p>	<p>Powerpoint presentation</p> <p>Cisco Webex,</p> <p>Google Classroom</p>	<p>Written Examination and recitation</p> <p>Laboratory Activities</p>
4	<p>CLO 2</p> <p>CLO 4</p> <p>CLO 6</p>	<p>Casting and Examination of three</p>	<p>Watch the recorded lecture</p>	<p>Online lecture</p> <p>Research work</p>	<p>Explain the procedures in making cast to gather impression evidence such as footwear impressions,</p>	<p>Conduct small group session</p>	<p>Powerpoint presentation</p> <p>Cisco Webex,</p>	<p>Laboratory Activities</p>

		(3) dimensional Impressions	Submit research work Answer the assessment task	Interactive discussion	tire marks and other tool marks. Explain the criteria of a good casting materials Discuss techniques on how Plaster of Paris is prepared for casting.		Google Classroom	Actual developing of moulage.
5	CLO 2 CLO 4 CLO 6	Soil Analysis Petrography Dust and dirt. Classification of dust.	Watch the recorded lecture Submit experiment Answer the assessment task	Online lecture experiment	Know the important role of petrography in crime detection. Discuss the importance of soil as an evidence for crime investigation.	Conduct small group session	Powerpoint Presentation Laboratory equipment	Laboratory Analysis of soil Written exam
6	Preliminary Examination							
7	CLO 2 CLO 4 CLO 6	Ink and Paper analysis Examination of paper, watermarks and paper composition. Ink analysis, Approximate age of documents.	Watch the recorded lecture Submit research work Answer the assessment task	Online lecture Interactive discussion	Know the composition of a paper Recognize watermarks Perform different methods of chemical analysis for paper and ink.	Conduct small group session	Powerpoint presentation Laboratory equipment Cisco Webex, Google Classroom	Recitation Written Exam Laboratory works

8	CLO 2 CLO 4 CLO 6	Explosives and Gun powder Different types of explosives Gun powder types and composition. Parrafin testing Other methods of detecting gun powder residue	Watch the recorded lecture Answer the assessment task	Online lecture Reporting Interactive discussion	Differentiate the types of explosives Identify the types of gunpowder Perform paraffin testing or diphenylamine test Approximate shooting distance based on the nature of wounds and gun powder residue.	Individual coaching	Powerpoint presentation Cisco Webex, Google Classroom	Illustrations Written and Oral Examination
9	CLO 2 CLO 4 CLO 6	Examination of Glass fragments and fractures Composition of glass Types of Glass fractures and their characteristics Identification of the origin of shots.	Watch the recorded lecture Answer the assessment task	Online lecture Reporting Interactive discussion	Explain the nature of glass, its properties and composition. Differentiate types of glass fractures Analyze glass fractures pattern in reference to series of shot.	Individual coaching	Powerpoint presentation Cisco Webex, Google Classroom	Written and Oral Examination
10	CLO 4 CLO 5 CLO 6	Forensic Toxicology Introduction and Role of Forensic Toxicologist	Watch the recorded lecture Submit group work Answer the assessment task	Online lecture Group Work Interactive discussion	Define Toxicology, poison and forensic toxicology Discuss the role of Forensic Toxicologist in criminal investigation.	Individual coaching	Powerpoint presentation Used of Diagram Cisco Webex, Google Classroom	Charts Written exam Oral Recitation

11	CLO 4 CLO 5 CLO 6	Poisons: Its classification, effects and treatment & Examination of poisons	Watch the recorded lecture Answer the assessment task	Online lecture Interactive discussion	Classify common poison State the most reported toxins which are the source of most frequent deaths. Know the different effects of common poison	Individual coaching	Powerpoint presentation Cisco Webex, Google Classroom	Written and Oral Examination
12	Midterm Examination							
13	CLO 3 CLO 4 CLO 6 CLO 4 CLO 5 CLO 6	Drug Analysis: Classification of Dangerous drugs and its analysis Alcohol. Blood alcohol analysis.	Watch the recorded lecture Answer the assessment task	Online lecture Interactive discussion	State the working definition of drugs and enumerate the major classes of abused drugs. State the scientific names of some drugs and give examples of each major classes. Discuss the steps in screening and confirmatory test for drugs.	Conduct small group session	Powerpoint presentation Cisco Webex, Google Classroom	Preparation of Charts Written and Oral Examination
14	CLO 4 CLO 5 CLO 6	Toxicological Investigation of Drug-facilitated Sexual Assaults (DFSA)	Watch the recorded lecture Answer the assessment task	Online lecture Interactive discussion	Define drug facilitated sexual assault Identify drugs associated with sexual assault Determine bodily fluid commonly collected for forensic toxicological evidence	Conduct small group session	Powerpoint presentation Cisco Webex, Google Classroom	Recitation Written Exam
15	CLO 4 CLO 5 CLO 6	Suggested Autopsy Specimen and Quantities to be	Watch the recorded lecture	Online lecture	Discuss what specimens are to be collected and how it will be collected.	Conduct small group session	Powerpoint presentation	Written exam

		submitted for toxicological examination	Answer the assessment task	Interactive discussion	Describe laboratory methods/test/techniques employed		Cisco Webex, Google Classroom	
16	CLO 4 CLO 5 CLO 6	Standard Operating Procedures in the collection, Handling, Preservation, and documentation of toxicological Evidence.	Watch the recorded lecture Answer the assessment task	Online lecture Interactive discussion	Discuss the standard operating procedures in: a. collecting specimen b. Handling and preservation of specimen c. marking and storage of specimen d. documentation of toxicological evidence Explain the use of personal protective equipment, PPE for safety, and obtaining intact and uncontaminated specimen.	Conduct small group session	Powerpoint presentation Cisco Webex, Google Classroom	Recitation Quiz
17	CLO 1 CLO 3 CLO 6	Course Review	Watch the recorded lecture Answer the assessment task	Online review on competencies	Answer the Course Final Assessment	Individual assessment	Powerpoint presentation Cisco Webex, Google Classroom	Written and Oral Examination
18	Final Examination							

IX. Course Requirements

:

1. Attendance not less than 60% of the required class hours.

2. Class participation in discussion, modular or online individual and group activities.

X. Approach/ Methodology:

1. Modular approach
2. Online and face to face lecture / Discussion / Brainstorming
3. Power point presentation
4. Video presentation
5. Online, written and oral activities

XI. Evaluation

- a. Online or Face-to-Face Recitation
- b. Online or Face-to-Face Project output
- c. Online or Face-to-Face Practical Demonstration
- d. Written and Oral Examination

XII. Grading System

1. Averaging
2. System of Grading:

Grade Point	Equivalent
1.00	98-100
1.25	95-97
1.50	92-94
1.75	89-91
2.00	86-88
2.25	83-85
2.50	80-82
2.75	76-79
3.00	75
5.00	74 below

3. Minimum Rating for passing the course:
3.00 or 75%

4. Remarks:

Passed; Incomplete (INC); Officially Dropped (OD); Unofficial Dropped (UD); No Attendance (NA)

XIII. Remarks

If there will be unavoidable circumstances that the faculty will miss his class, he must inform in advance the department head to have a catch-up plan such as library research, group study or any activity in order not to compromise the program objectives.

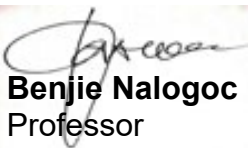
XIV. Suggested References/ Textbooks:

- a. Atty. Lorenzo A. Sunico, Forensic Chemistry
- b. Lucas, Forensic Chemistry
- c. Ricahrd Safertein, Criminalistics: An Introduction to Forensic Science
- d. SS Krishnan, An Introduction to Modern Criminal Investigation with Basic Laboratory Technique
- e. Richard Safertein, Criminalistics: An introduction to Forensic Science, 7th edition.
- f. <https://www.scribd.com/doc/Forensic>
- g. www.lcjvs.com/libraries/download.php

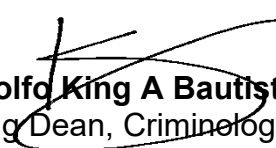
Prepared by:


Rodolfo King A Bautista, Ph.D
Professor

Verified by:


Benjie Nalogoc
Professor

Proved by:


Rodolfo King A Bautista, Ph.D
Acting Dean, Criminology Department