

Course Outline

COURSE: JLE 124 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2016 **CURRICULUM APPROVAL DATE:** 02/22/2016

SHORT TITLE: LATENT PRINT

LONG TITLE: Latent Print

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
.5	17.5	Lecture:	.45	7.88
		Lab:	.91	15.93
		Other:	0	0
		Total:	1.36	23.8

COURSE DESCRIPTION:

Federal, state and local law enforcement agencies have a continual need to ensure that their employees are properly trained to compare and identify latent palm and fingerprint impressions recovered from evidence. Furthermore, the students need to be trained concerning how to present expert testimony in a court of law. This is a pass/no pass course.

PREREQUISITE:

POST Certified basic law enforcement academy or equivalent as determined by the Dean of Academy Instruction.

Note: Approval of equivalent training is not a guarantee state regulatory or licensing agencies with also grant equivalency.

Prior to beginning this course students must already be familiar with, and be able to demonstrate all of the skills listed below. These will not be taught in the course, rather, they will be the starting point for advanced officer training that builds upon them. These minimum knowledge and skill levels are regarding:

1. Officer safety
2. Knowledge of preliminary investigation components
3. Familiarity with evidence preservation techniques
4. Familiarity with the total range of basic criminal investigative procedures
5. Familiarity with the basic steps for developing latent fingerprints
6. Knowledge of the general guidelines for collecting and processing physical evidence

PREREQUISITES:

Completion of JLE 100, as UG, with a grade of C or better.

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

03 - Lecture/Laboratory

04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. Demonstrate proficiency in finding, developing, recovering and documenting latent fingerprint evidence.

Measure: Skill demonstration, practical application of techniques, role play

PLO:

ILO: 2, 3, 7

GE-LO:

Year assessed or anticipated year of assessment: 2015

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 02/22/2016

I. Scientific Basis for Fingerprint Identification (4 hours)

A. Unique

1. Every fingerprint is unique

B. Permanent

1. Once formed during fetal development they will not change

C. Formed during the 12th – 18th week of gestation

D. Remains unaltered until decomposition

E. Changed only by scarification

1. Examples of “changed” fingerprint patterns

II. Latent Print Pattern Recognition & Orientation

A. Arch

B. Loop

C. Whorl

D. Palm prints

III. What is a “Latent” Print?

A. Latent = hidden or invisible

1. Made visible through powders & chemicals

B. Patent prints

1. Visible

2. Not truly a latent print

3. Prints made with paint or fingers or in paint

4. Prints on greasy surfaces

5. Prints on dust-covered surfaces

6. Impressed prints – putty, plastic soap

7. Blood prints (have been found on cloth, as well as on hard surfaced objects)

8. Etched prints (prints in copper)

C. Factors involved in leaving latent prints

1. Ridges must bear some sweat, grease, oil, or foreign matter

2. Non-secretors (persons who do not sweat) are unlikely to leave latent prints
3. Cold weather
4. Hot weather
5. Immersion in or limited contact with water
6. Presence determined only by actual examination of object
7. Age of latent print
8. Location of print may be of evidentiary significance
- D. Size of latent typically needed for ID – about ¼ inch

SPO: Describe how latent prints are deposited on various surfaces.

Assignment: Review latent print patterns and factors for identification.

IV. Latent Fingerprint Powders (4 hours)

A. Magnetic

1. Black, white, gray powder
2. Magnetic wand

B. Non-magnetic

1. Black, white, gray
2. Fiberglass or camel hair brush

C. Fluorescent

1. Magnetic or non-magnetic
- D. Choose color to contrast with substrate surface
 1. Black for light colored substrates
 2. White for dark colored substrates
 3. Gray for dark colored substrates
 4. Fluorescent for either light or dark colored substrates

E. Surfaces suitable for use of powder

1. Non-porous
2. Semi-porous

V. Brushes

A. Kinds

1. Fiberglass
2. Camel hair
3. Magnetic wands
4. Feather dusters
5. Roll of cotton

B. Techniques

1. Do not scour
2. Brush with grain of ridges
3. "Dressing up" the print

VI. Latent Print Lifting Procedures & Techniques

A. Clear or frosted tape

- B. 2" or 4" rolls
- C. Tape dispensers - 2" & 4"
- D. Hinge lifters – various sizes

1. Clear - translucent
2. Black
3. White

E. Lifting techniques

1. Avoid "air bubbles" in tape

F. Consider multiple lifts

G. Accutrans® silicon putty

1. Clear

2. Brown

3. White

H. Mikrosil®

1. White

2. Black

SPO: Identify various products used to lift and mount powdered latent print impressions.

Assignment: Practice latent print retrieval techniques.

VII. Latent Print Photography (8 hours)

A. Cameras

1. Film

2. Digital

3. Lenses

4. Lens filters

5. Scales

6. Tripods

7. StapleTube™

B. Photographic Techniques

1. Perspective photography

2. Without scale

3. With scale

C. Bracket exposures

D. Lighting techniques

E. Black & white film

F. Color film

VIII. Forensic Light Sources

A. Inherent luminescence

B. Enhancement with fluorescent powders

C. Photographing fluorescent latent prints

D. Lifting latent print impressions developed with fluorescent powders

E. Dye stain after CAE (super glue) on non-porous surfaces

F. DFO (treatment of papers)

G. Physiological fluids

1. Blood (absorbs, does not fluoresce)

2. Semen

3. Urine

4. Saliva

H. Contaminants

1. Gasoline - motor oil

2. Lipstick, cosmetics, nail polish

3. Paint, paint chips

4. Animal fats

5. Organic compounds

I. Fibers and other trace evidence

1. Hairs - not usually fluorescent but easier to locate

2. Fibers - Some man-made and natural fibers will fluoresce

J. Intense Light Source for Oblique Lighting

1. Dust prints
2. Black powdered prints
3. Striation marks
4. Indented

K. Forensic Light Source Safety Considerations

1. Permanent eye damage can occur from direct, reflected, or refractive light hitting the eye.
2. Use goggles supplied by the ALS manufacturer.
3. Wear goggles specified for the wavelength being utilized.
4. Remove or conceal all reflective surfaces from area.
5. Short wavelength ultraviolet (UV) can cause severe eye burns.
6. For UV light - use UV absorbing goggles or face shield and lab coat.

IX. Chemical Development of Latent Print Impressions

A. Super Glue / Cyanoacrylate (CAE)

1. Use on wide variety of surfaces
2. Develops up to seven years later
3. Glue
4. Bonds latent prints to surface.
5. Yields more prints than traditional methods
6. Equipment & materials needed:
7. Fuming techniques
8. Superglue process acceleration methods
9. Processing vehicles
10. Powder, photograph & lift
11. Personal Safety & other considerations

B. Small Particle Reagent

1. Black or white
2. Comes in dry powder or pre-mixed solution
3. Use on wet surfaces
4. Spray on surface
5. Photography
6. Lifting techniques

C. Sticky-Side Powder - Wetwop®

1. Develops latent prints on sticky side of tape
2. Un-du® adhesive remover

D. Iodine

E. Ninhydrin

F. DFO

G. Silver nitrate

H. Other commonly used chemicals

X. Safety Considerations in Regards to Latent Print Development

- A. Laboratory safety practices
- B. Crime scene safety practices
- C. Importance of following MSDS instructions

SPO: Identify techniques that will maximize success for developing latent prints on a variety of surfaces.

Assignment: Review safety guidelines for developing latent prints.

XI. Documentation of the Recovery of Latent Prints (8 hours)

- A. Identifying the latent print lifts

- B. Latent print lift logs
 - C. Photo logs
 - D. Chain-of-custody issues
- XII. Introduction of Latent Prints in a Court of Law
- A. Preparing to testify
 - B. Essential elements of a curriculum vitae
 - C. Importance of pre-trial conference with prosecutor
 - D. Courtroom procedures
 - E. How to be a successful witness
 - F. Direct & cross-examination
 - G. Tactics used by defense attorneys
 - H. "Moot Court" practical exercise

SPO: Demonstrate documentation procedures for latent prints recovered from a crime scene.
 Assignment: Review handouts regarding testimony preparation for use in classroom exercise.

METHODS OF INSTRUCTION:

Lecture, visual/audio aids, skills demonstrations, lab

METHODS OF EVALUATION:

CATEGORY 1 - The types of writing assignments required:

Percent range of total grade: 20 % to 35 %

Written Homework

CATEGORY 2 -The problem-solving assignments required:

Percent range of total grade: 25 % to 35 %

Homework Problems

Quizzes

CATEGORY 3 -The types of skill demonstrations required:

Percent range of total grade: 35 % to 55 %

Class Performance/s

Performance Exams

CATEGORY 4 - The types of objective examinations used in the course:

Percent range of total grade: 10 % to 40 %

Multiple Choice

True/False

REPRESENTATIVE TEXTBOOKS:

Other textbooks or materials to be purchased by the student:

Instructor Handouts

Reading level of text, Grade: 12 Verified by: Doug Achterman

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 199750

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 2 Stand-alone

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department: JLE

CSU Crosswalk Course Number: 124

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: B

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000525380

Sports/Physical Education Course: N

Taxonomy of Program: 210500