CTAE Pacing Guide
Course Name
Course Number

First Semester

Week	Unit or Topic	Description of Tasks and Activities Within Unit
1	**Employability Skills** LPSCS-FSCI-1	**Demonstrate employability skills required by business and industry.** **The following elements should be integrated throughout the content of this course.** 1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities. 1.2 Demonstrate creativity with multiple approaches to ask challenging questions resulting in innovative procedures, methods, and products. 1.3 Exhibit critical thinking and problem-solving skills to locate, analyze, and apply information in career planning and employment situations
2	LPSCS-FSCI-1	1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity. 1.5 Apply the appropriate skill sets to be productive in a changing, technological, and diverse workplace to be able to work independently, interpret data, and apply teamwork skills. 1.6 Present a professional image through appearance, behavior, and language.
3	**Characteristics of Science** LPSCS-FSCI-2	**Utilize the methodologies of the "characteristics of science."** 2.1 Evaluate the importance of curiosity, honesty, openness, and skepticism in science. 2.2 Demonstrate using standard safety practices for all classroom laboratory and field investigations. 2.3 Identify and investigate problems scientifically. 2.4 Demonstrate using tools and instruments for observing, measuring, and manipulating scientific equipment and materials.
4	LPSCS-FSCI-2	2.5 Demonstrate the computation and estimation skills necessary for analyzing data and developing reasonable scientific explanations. 2.6 Demonstrate communicating scientific investigations and information clearly. 2.7 Analyze how scientific knowledge is developed. 2.8 Demonstrate an understanding of important features of the process of scientific inquiry.
5	Review for EOPA	
6	**Basic Forensic Science** LPSCS-FSCI-3	**Research and explain basic concepts of forensic science.** 3.1 Explain Locard's Exchange Principle, Frye Standard, and Daubert Ruling. 3.2 Categorize the differing types of evidence, including testimonials and physical and individual, as well as class evidence.
7	LPSCS-FSCI-3	3.3 Identify and explain the fields of science that can assist in solving a crime including biology, chemistry, forensic anthropology and forensic pathology. 3.4 Describe the crime lab including equipment, safety and sanitation necessary, set-up, and work flow.

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		3.5 Discuss the chain of evidence and other legal considerations applied to scientific work performed in forensics.
8	**Death Investigations** LPSCS-FSCI-4	**Differentiate the methods of medico-legal investigations of death.** 4.1 Explain the process of performing an autopsy. 4.2 Research PMI (Post Mortem Interval).
9	LPSCS-FSCI-4	4.3 Compare the five manners of death. 4.4 Distinguish the causes of death commonly associated with homicide
10	Review for EOPA	
11	**Investigating using Physics** LPSCS-FSCI-5	**Apply the concepts of physics to a criminal investigation.** 5.1 Demonstrate how the principles of fluid dynamics are used to reconstruct a crime scene, based on spatter evidence. 5.2 Explain the various physical laws used in studying ballistics.
12	LPSCS-FSCI-5	5.3 Compare casings and bullets for potential matches to evidence exemplars. 5.4 Collect evidence created by pressure exerted on surfaces, such as tool marks, tire marks, and footwear. 5.5 Explain how physics is used in accident reconstruction.
13	**Investigating using Chemistry** LPSCS-FSCI-6	**Connect principles of chemistry to criminal investigations.** 6.1 Investigate how chemical analysis is used in arson investigations. 6.2 Predict the types of chemical compounds that might be found in a terrorism crime scene. 6.3 Examine how Spectrophotometry is used in forensics. 6.4 Differentiate between the various types of chromatography that are used in the crime lab and the evidentiary value of each.
14	LPSCS-FSCI-6	6.5 Predict types of controlled substances based upon lab test results. 6.6 Explain how blood alcohol levels are tested and quantified.
15	LPSCS-FSCI-6	6.7 Identify and describe toxins common to criminal investigations. 6.8 Describe the various agents used to develop latent fingerprints. 6.9 Distinguish between chemicals used in recovering impression evidence that has been damaged.
16	Review for Final	
17	**Investigating using Microscopes** LPSCS-FSCI-7	**Compare the various types of evidence investigated using a microscope.** 7.1 Distinguish the types of microscopes used in the crime lab and explain their evidentiary value. 7.2 Classify the morphology of trace evidence such as hair, fibers glass and soil.
18	**First Semester Exam**	Final Exam

Second Semester

CTAE Pacing Guide
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Week	Unit or Topic	Description of Tasks and Activities Within Unit
19	LPSCS-FSCI-7	7.3 Describe the botanical features of organic controlled substances. 7.4 Explain how microscopes are used in impression evidence such as casings and tool marks.
3620	LPSCS-FSCI-7	7.5 Demonstrate using pedological applications to soil in criminal cases. 7.6 Research the impact of enhanced microscopes and other technology in the process of evaluating physical evidence.
21	Review for EOPA	
22	**Criminal Investigations using Biological Science** LPSCS-FSCI-8	**Assess applications from biological science to criminal investigations.** 8.1 Validate Galton's three principles of fingerprints. 8.2 Demonstrate properly identifying, processing, and classifying fingerprints given various surfaces. 8.3 Apply forensic entomology to a scenario to determine approximate time of death.
23	LPSCS-FSCI-8	8.4 Distinguish skeletal features using forensic anthropology to estimate gender, age, ancestry, health and cause of death. 8.5 Formulate a plan to process a crime scene to discover serological evidence.
24	LPSCS-FSCI-8	8.6 Delineate the lab results of serological evidence by their evidentiary value. 8.7 Demonstrate constructing an estimated of time of death based upon the postmortem condition of anatomical features in a human.
25	LPSCS-FSCI-8	8.8 Classify stages of decomposition. 8.9 Describe how Deoxyribonucleic Acid (DNA) is collected, amplified, examined, and how cross contamination can occur. 8.10 Compare DNA results using short tandem repeat patterns.
26	LPSCS-FSCI-8	8.11 Explain why certain evidence yields better DNA than others. 8.12 Discuss emerging cellular evidence such as RNA (Ribonucleic Acid) and mDNA (mitochondrial Deoxyribonucleic Acid.) 8.13 Identify and explain points of comparison used in forensic odontology.
27	**Forensic Science & Courts** LPSCS-FSCI-9	**Explain how forensic science is used in the courtroom.** 9.1 Critique the legal standards used in court admissibility. 9.2 Appraise how scientists gain "expert witness" status
28	LPSCS-FSCI-9	9.3 Discuss how forensics is used in civil cases. 9.4 Assess cases of "junk" science to construct suggested standards for admissibility. 9.5 Explain the phenomena called the "CSI Effect."
29	Review for EOPA	
30	End of Pathway Exam	
31	**Crime Scene Investigations** LPSCS-FSCI-10	**Demonstrate the skills needed to investigate a crime scene including preventing contamination when evidence is gathered.**

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		10.1 Demonstrate utilizing basic interview techniques to gather information from potential witnesses, including assessing nonverbal clues. 10.2 Demonstrate documenting, logging, and maintaining the chain of custody of evidence.
32	LPSCS-FSCI-10	10.2 Demonstrate documenting, logging, and maintaining the chain of custody of evidence.
33	LPSCS-FSCI-10	10.3 Demonstrate properly processing a mock crime scene. 10.4 Demonstrate reconstructing a crime scene based on evidence discovered and processed
34	LPSCS-FSCI-10	10.5 Investigate the various criminological theories relating to evidence at a crime scene. 10.6 Explain ways serial offenders are investigated and how criminal profiling might be utilized based on crime scene evidence.
35	Review for Final	
36	**Final Exam**	Final Exam