

**Florida Department of Education
Curriculum Framework**

Program Title: Crime Scene Technology
Program Type: Career Preparatory
Career Cluster: Law, Public Safety & Security

Secondary – Career Preparatory	
Program Number	8918001
CIP Number	0743010604
Grade Level	9-12
Program Length	4 credits
Teacher Certification	Refer to the Program Structure section.
CTSO	SkillsUSA, FPSA
SOC Codes (all applicable)	19-4092 -- Forensic Science Technicians
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Law, Public Safety and Security career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of the Law, Public Safety and Security career cluster.

Program Structure

This program is a planned sequence of instruction consisting of four (4) credits.

To teach the courses listed below, instructors must hold at least one of the teacher certifications indicated for that course.

The following table illustrates the secondary program structure:

Course Number	Course Title	Teacher Certification	Length	SOC Code	Level	Graduation Requirement
8200301	Crime Scene Technology 1	LAW ENF @7 7 G	1 credit	19-4092	2	CT

8200302	Crime Scene Technology 2	PUB SERV 7 G CORR OFF 7 G	1 credit	19-4092	2	CT
8200303	Bloodstain Pattern Analysis		1 credit	19-4092	2	CT
8200304	Courtroom Presentation of Scientific Evidence and Report Writing		1 credit	19-4092	2	CT

(Graduation Requirement Codes: CT= Career & Technical Education, EQ= Equally Rigorous Science, EC= Economics, MA= Mathematics, PL= Personal Financial Literacy)

Florida's Career Readiness Skills for CTE Programs

Employability Skills	
01.0	Apply academic skills to workplace scenarios.
01.01	Use reading skills.
01.02	Use writing skills.
01.03	Use mathematical strategies and procedures.
01.04	Use scientific principles and procedures.
02.0	Design a solution to an industry problem.
02.01	Use critical thinking.
02.02	Use creativity.
02.03	Make sound decisions.
02.04	Solve problems.
02.05	Reason.
02.06	Plan and organize.
03.0	Manage resources within an industry project
03.01	Manage time.
03.02	Manage money or resources.
03.03	Manage materials.
03.04	Manage personnel.
04.0	Oversee the subcomponents, operations and output of a technical or organizational system.
04.01	Manage systems.
04.02	Monitor systems.
04.03	Improve systems.
05.0	Use information for decision making.
05.01	Locate information.
05.02	Organize information.
05.03	Use information.

05.04	Analyze information.
05.05	Communicate information.
06.0	Apply relevant technology to workplace scenarios to aid productivity.
06.01	Use technology.
07.0	Interpret and express interpersonal communication.
07.01	Communicate verbally.
07.02	Listen actively.
07.03	Comprehend written material.
07.04	Convey information in writing.
07.05	Communicate nonverbally.
07.06	Interpret nonverbal communication.
08.0	Interact with others to accomplish workplace goals.
08.01	Collaborate with others in a team.
08.02	Respond to customer needs.
08.03	Exercise leadership.
08.04	Negotiate to resolve conflict.
08.05	Respect others.
09.0	Manage personal behavior to maximize productivity and professional growth.
09.01	Demonstrate responsibility and self-discipline.
09.02	Adapt and show flexibility.
09.03	Work independently.
09.04	Demonstrate a willingness to learn.
09.05	Demonstrate integrity.
09.06	Demonstrate professionalism.
09.07	Take initiative.
09.08	Display positive attitude.
09.09	Take responsibility for professional growth.
Career Exploration & Planning	

10.0	Explain career opportunities aligned with the regional economy and personal aspirations.
10.01	Describe regional occupations that are high-demand, high-growth, high-wage and/or high-skill.
10.02	Describe careers aligned with his or her interests, skills and values based on career assessment, experiential learning, career informational interviews, research and/or reflection.
11.0	Explain postsecondary pathways aligned with his or her career aspirations.
11.01	Compare and contrast postsecondary pathways, including education, employment, entrepreneurship and enlistment (the “Four Es”).
11.02	Compare and contrast regional postsecondary training provider options, including apprenticeships, technical colleges, state colleges, universities and industry-recognized certification providers.
11.03	Define postsecondary credentialing and stacking options, including industry-recognized certifications, apprenticeship certificates of completion, career certificates, licenses and associate or baccalaureate degrees.
11.04	Compare postsecondary training data for training programs of interest, such as total costs, average student loan debt, and median earnings and job placement rates after program completion.
12.0	Develop a personalized career and academic plan.
12.01	Prioritize an occupation, credential and postsecondary training provider for plan formation.
12.02	Self-assess progress toward meeting graduation requirements and skill-development goals.
12.03	Develop and complete a chronological checklist of steps and deadlines prior to postsecondary training or national service application that includes any required documentation to gather, writing prompts and examinations.
12.04	Identify a variety of financial aid opportunities, including scholarships, grants, savings, work, work-study programs, private loans and federal loans.
12.05	Develop a postsecondary training budget that is inclusive of living and school expenses.
Job Attainment	
13.0	Find, assess and apply to job opportunities.
13.01	Identify online job posts relevant to his or her career aspirations.
13.02	Compare and contrast the job posts’ required qualifications, job duties, compensation, benefits and employers.
13.03	Define what information, documentation and writing prompts are required for the positions.
14.0	Communicate personal competence, character and fit for a job opportunity.
14.01	Develop a resume.
14.02	Write a cover letter.
14.03	Curate a professional portfolio that includes work products.
14.04	Prepare for and experience a mock job interview.
15.0	Cultivate and leverage relationships to professionally advance.

15.01	Request a signed reference letter, letter of recommendation and/or an online skill/professionalism endorsement.
15.02	Develop a plan to cultivate a professional digital footprint.
15.03	Develop a networking plan for a specific industry of interest.

Standards

After successfully completing this program, the student will be able to perform the following:

Crime Scene Technology 1

- 01.0 Describe different components of crime scene processing.
- 02.0 Discuss the nature of physical evidence.
- 03.0 Demonstrate use of Crime Scene Photography.
- 04.0 Describe crime scene processing tasks and techniques.
- 05.0 Describe safety of personnel at crime scenes and identify steps to take for scene processing.
- 06.0 Explain steps taken to document a crime scene.
- 07.0 Sketch and map a crime scene.

Crime Scene Technology 2

- 08.0 Demonstrate an understanding of the use of crime scene notes and reports.
- 09.0 Describe steps to take for personal safety at a crime scene.
- 10.0 Explain how to document and reconstruct a shooting scene.
- 11.0 Discuss application of bloodstain pattern analysis at a crime scene.
- 12.0 Demonstrate proper documentation of the body as a crime scene.
- 13.0 Identify special scene considerations.
- 14.0 Discuss the history of crime scene analysis and reconstruction and describe how to reconstruct a scene.

Bloodstain Pattern Analysis

- 15.0 Describe the history of bloodstain pattern analysis and its impact on present day use at a crime scene.
- 16.0 Demonstrate understanding of different stages of injury patterns on the body.
- 17.0 Discuss the composition of biological and physical properties of human blood.
- 18.0 Demonstrate the ability to analyze physical properties of bloodstain formation.
- 19.0 Demonstrate the ability to analyze passive bloodstains.
- 20.0 Demonstrate the ability to identify formation of spatter.
- 21.0 Demonstrate the ability to identify spatter associated with a projection mechanism.
- 22.0 Demonstrate ability to photograph bloodstain evidence.

Courtroom Presentation of Scientific Evidence and Report Writing

- 23.0 Discuss steps for crime scene technicians to take when issued a subpoena.
- 24.0 Describe negligence and how it can damage a case.
- 25.0 Identify rules of evidence.
- 26.0 Demonstrate use of scientific literature.
- 27.0 Demonstrate proper conduct for testifying in court.
- 28.0 Demonstrate use of professional documentation in report writing.

**Florida Department of Education
Student Performance Standards**

Course Title: Crime Scene Technology 1
Course Number: 8200304
Course Credit: 1

Course Description:

This course is to prepare students for careers as crime scene technicians. Students will also be instructed on personal, interpersonal, and communication skills as well as demonstrate employability skills.

CTE Standards and Benchmarks	
01.0	Describe different components of crime scene processing. The student will be able to:
01.01	Distinguish the differences between the CSI Effect and reality of crime scene investigations.
01.02	Analyze T.V. shows related to the CSI Effect and discuss the impact of these shows on the field of forensic science.
01.03	Define crime scene vocabulary.
01.04	Define and identify types of evidence (i.e., Testimonial Evidence, Physical Evidence, and Trace Evidence).
01.05	Identify the roles of crime scene personnel (i.e., Police officers, CSI Unit, District Attorney, Medical Examiner, Specialists, and Detectives).
01.06	Summarize crime scene protocol to include: Interview, Examine, Document, and Process.
01.07	Identify different types of evidence (i.e., Biology/DNA, Toxicology, Latent Prints, Ballistics, Toolmarks, and Questioned Documents).
02.0	Discuss the nature of physical evidence. The student will be able to:
02.01	Outline the difference between class and individual characteristics of evidence.
02.02	Define trace evidence.
02.03	Explain the collection of hair and fiber evidence.
02.04	Demonstrate collection of hair and fiber evidence.
02.05	Describe collection and processing of glass.
02.06	Explain collection and processing of paint and polymers.

02.07	Explain paint layering.
02.08	Explain the soil collection and processing procedures.
02.09	Demonstrate soil collection and processing procedures.
02.10	Discuss differences in how to process crime scenes based on ballistics present at the scene.
02.11	Describe testing process for GSR.
02.12	Define rifling.
02.13	Describe steps to identify ballistic match with rifling technique.
02.14	Explain the collection and processing of tool mark evidence.
02.15	Explain the collection and processing of impression evidence.
02.16	Explain the collection and processing of chemical evidence.
02.17	Explain the collection and processing of document evidence.
02.18	Explain Locard's exchange principle.
02.19	Explain cross-contamination of evidence.
02.20	Explain the history of fingerprints.
02.21	Identify sources, steps for collection and processing of serology and biological evidence.
02.22	Explain the process of protecting, collecting, and processing computer forensics.
02.23	Discuss the role of forensic pathology.
02.24	Discuss the role of a forensic pathologist.
03.0	Demonstrate use of crime scene photography. The student will be able to:
03.01	Discuss the history of forensic imaging.
03.02	Document initial interactions at scene.
03.03	Discuss the process of providing emergency care at the scene.
03.04	Explain the process of how to secure a crime scene.
03.05	Demonstrate how to secure a crime scene.

03.06	Outline the process of releasing the scene to appropriate authorities.
04.0	Describe crime scene processing tasks and techniques. The student will be able to:
04.01	Explain the importance and process of observation at a crime scene.
04.02	Create a crime scene sketch.
04.03	Identify and demonstrate search patterns.
04.04	Outline general rules for collection of evidence.
05.0	Describe safety of personnel at crime scenes and identify steps to take for scene processing. The student will be able to:
05.01	Explain sharing of information with responding officers.
05.02	Explain and demonstrate a scene scope and boundary assessment.
05.03	Explain how to ensure scene integrity and control scene contamination.
05.04	Identify equipment needed for personal protective measures.
05.05	Define biohazards and how to protect against them.
05.06	Outline steps to take before entering buildings with structural, fire and explosion hazards.
05.07	Discuss possible chemical, bioterror, and inhalation hazards and how to protect against them.
05.08	Explain the role of a crime scene technician at a mass crime scene or mass casualty.
05.09	Explain the role of crime scene supervisors.
05.10	Explain Practical On-Scene Considerations for the Mass Scene.
06.0	Explain steps taken to document a crime scene. The student will be able to:
06.01	Demonstrate proper photo documentation.
06.02	Describe types and purpose of crime scene photographs.
06.03	Demonstrate overall photographs.
06.04	Demonstrate evidence-establishing photographs.
06.05	Demonstrate how to take close-up quality forensic photographs.
06.06	Identify precautions for video photography.

07.0	Sketch and map a crime scene. The student will be able to:
07.01	Define essential elements of a sketch.
07.02	Discuss variations of view in sketches.
07.03	Discuss methods for crime scene mapping.
07.04	Discuss how technology is used in crime scene mapping.

**Florida Department of Education
Student Performance Standards**

Course Title: Crime Scene Technology 2
Course Number: 8200302
Course Credit: 1

Course Description:

This course is part two of a progression to prepare students for careers as crime scene technicians. Students will also be instructed on personal, interpersonal, and communication skills as well as demonstrate employability skills.

CTE Standards and Benchmarks	
08.0	Demonstrate an understanding of the use of crime scene notes and reports. The student will be able to:
08.01	Demonstrate use of investigative notes.
08.02	Complete a crime scene report.
09.0	Describe steps to take for personal safety at a crime scene. The student will be able to:
09.01	Discuss the possible health and safety hazards at a crime scene.
09.02	Explain the importance and use of protective equipment for crime scene processing.
09.03	Participate in a mock crime scene.
09.04	Describe storage and control of evidence.
09.05	Explain the history of fingerprints.
09.06	Explain classification versus identification of fingerprints.
09.07	Discuss AFIS and its use.
09.08	Define surface characteristics.
09.09	Explain fingerprint interaction with porous surfaces.
09.10	Explain fingerprint interaction with nonporous smooth and rough surfaces.
09.11	Demonstrate fingerprinting techniques.
09.12	Explain cyanoacrylate fuming.

09.13	Demonstrate basic brush and powder techniques.
09.14	Explain the procedure for collection of fingerprints at fire scenes.
10.0	Explain how to document and reconstruct a shooting scene. The student will be able to:
10.01	Explain internal, terminal, and external ballistics.
10.02	Describe bullet defect verification through chemical evaluation.
10.03	Explain the bullet impact angle based on defect shape.
10.04	Explain zones of possibility.
11.0	Discuss application of bloodstain pattern analysis at a crime scene. The student will be able to:
11.01	Discuss the Physically Altered Bloodstain Principle.
11.02	Discuss the Methodology of BPA.
11.03	Discuss Infrared Photography.
11.04	Identify different degree patterns of bloodstains.
12.0	Demonstrate proper documentation of the body as a crime scene. The student will be able to:
12.01	Explain the process of examining a corpse in situ.
12.02	Explain the process of examining a corpse in the morgue.
12.03	Explain the process of examining a live individual.
12.04	Identify cause of injuries.
13.0	Identify special scene considerations. The student will be able to:
13.01	Explain special scene considerations for fire scenes.
13.02	Explain special scene considerations for landfill recoveries.
13.03	Explain special scene considerations for buried and scattered remains.
13.04	Explain special scene considerations for entomological evidence associated with bodies.
14.0	Discuss the history of crime scene analysis and reconstruction and describe how to reconstruct a scene. The student will be able to:
14.01	Discuss the history of crime scene reconstruction.

14.02	Identify the underlying principles of crime scene reconstruction.
14.03	Apply the scientific method to a crime scene investigation.
14.04	Explain how to reconstruct entire events.

**Florida Department of Education
Student Performance Standards**

Course Title: Bloodstain Pattern Analysis
Course Number: 8200303
Course Credit: 1

Course Description:

Students will learn basic principles of bloodstain pattern analysis as well as techniques to collect blood evidence.

CTE Standards and Benchmarks	
15.0	Describe the history of bloodstain pattern analysis and its impact on present day use at a crime scene. The student will be able to:
15.01	Discuss objectives of Bloodstain Pattern Analysis.
15.02	Discuss the scientific approach to bloodstain pattern analysis.
15.03	Discuss the historical development of Bloodstain Pattern Analysis.
15.04	Classify bloodstains.
16.0	Demonstrate understanding of different stages of injury patterns on the body. The student will be able to:
16.01	Define blood circulation vocabulary.
16.02	Compute blood volume.
16.03	Define terminology associated with medical and anatomical aspects of blood.
16.04	Determine injury patterns and cause of those injuries (i.e., abrasions, lacerations, incised wounds, stab wounds, gunshot wounds, contact wounds, intermediate-range gunshot wounds, distant or long-range gunshot wounds, and gunshot exit wounds).
16.05	Identify bloodstain patterns in the body (i.e., Postmortem lividity, postmortem marbling of the skin, and petechial hemorrhaging).
16.06	Identify patterns associated with bruises.
16.07	Identify patterns associated with abrasions.
17.0	Discuss the composition of biological and physical properties of human blood. The student will be able to:
17.01	Discuss the composition of blood.
17.02	Discuss purpose of white and red blood cells.

17.03	Discuss purpose of hemoglobin.
17.04	Discuss purpose and function of platelets.
17.05	Discuss physical properties of blood (i.e., viscosity, surface tension, and relative density/specific gravity).
17.06	Explain how drugs and alcohol can affect bloodstains.
18.0	Demonstrate the ability to analyze physical properties of bloodstain formation. The student will be able to:
18.01	Determine travel of a blood drop.
18.02	Explain the effects of air resistance on blood drops as they fall.
18.03	Analyze drop volume.
18.04	Determine distance of fallen blood drops.
18.05	Discuss the classification of bloodstain patterns (i.e., passive, spatter, and altered).
19.0	Demonstrate the ability to analyze passive bloodstains. The student will be able to:
19.01	Identify free-falling drops on horizontal surfaces.
19.02	Identify free-falling drops on angular surfaces.
19.03	Identify drop patterns.
19.04	Identify drip trails.
19.05	Identify flow patterns.
19.06	Discuss blood pools.
19.07	Discuss saturation stains.
19.08	Identify transfer bloodstains.
20.0	Demonstrate the ability to identify formation of spatter. The student will be able to:
20.01	Discuss the physical properties of blood relative to spatter formation.
20.02	Discuss and identify physical characteristics of spatter patterns.
20.03	Understand distribution of spatter.
20.04	Demonstrate ability to identify shapes of spatter.

21.0	Demonstrate the ability to identify spatter associated with a projection mechanism. The student will be able to:
21.01	Discuss arterial mechanisms.
21.02	List and explain bloodstain patterns produced by medical conditions.
21.03	Explain expiratory mechanisms.
21.04	Explain cast-off mechanisms.
22.0	Demonstrate ability to photograph bloodstain evidence. The student will be able to:
22.01	Photograph bloodstains.

**Florida Department of Education
Student Performance Standards**

Course Title: Courtroom Presentation of Scientific Evidence and Report Writing
Course Number: 8200304
Course Credit: 1

Course Description:

Students will learn the basics of testifying in court in-regards to forensic evidence. Students will also interact with reports and focus on writing skills.

CTE Standards and Benchmarks	
23.0	Discuss steps for crime scene technicians to take when issued a subpoena. The student will be able to:
23.01	Discuss the purpose of a subpoena.
23.02	Discuss responsibility of crime scene technician when subpoena is received.
24.0	Describe negligence and how it can damage a case. The student will be able to:
24.01	Define negligence.
24.02	Define professional negligence.
24.03	Define statutory negligence.
25.0	Identify rules of evidence. The student will be able to:
25.01	Outline state rules of evidence.
25.02	Assess the hearsay rule.
25.03	Assess impact of chain of custody.
25.04	Demonstrate chain of custody.
25.05	Explain and outline process of rape evidence kit collection.
25.06	Describe how to conduct nondestructive testing.
26.0	Demonstrate use of scientific literature. The student will be able to:
26.01	Demonstrate use of Medical Literature Analysis and Retrieval System (MEDLARS).

26.02	Demonstrate use of the Internet for research.
27.0	Demonstrate proper conduct for testifying in court. The student will be able to:
27.01	Discuss requirements of testimony.
27.02	Discuss professional responsibility of testifying in court.
27.03	Demonstrate ability to testify in court.
28.0	Demonstrate use of professional documentation in report writing. The student will be able to:
28.01	Demonstrate use of proper grammar.
28.02	Demonstrate use of correct spelling and identify tools to use to ensure there are no spelling errors.
28.03	Demonstrate ability to write a clear, concise report with no grammatical, punctuation, or spelling errors.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Florida Standards for English Language Development (ELD)

English language learners communicate for social and instructional purposes within the school setting. ELD.K12.ELL.SI.1

English Language Development (ELD) Standards Special Notes:

Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELL) to communicate for social and instructional purposes within the school setting. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success. The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

Career and Technical Student Organization (CTSO)

CTSOs are co-curricular career and technical student organizations providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered. Other CTSOs not listed in this curriculum framework or recognized by the Florida Department of Education are permissible provided they support student mastery over the standards and benchmarks of this curriculum framework.

On-the-job training is appropriate but not required for this program. Whenever offered, the rules, guidelines, and requirements specified in the OJT framework apply.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities as identified on the secondary student's Individual Educational Plan (IEP) or 504 plan or postsecondary student's accommodations' plan to meet individual needs and ensure equal access. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

In addition to accommodations, some secondary students with disabilities (students with an IEP served in Exceptional Student Education (ESE)) will need modifications to meet their needs. Modifications change the outcomes or what the student is expected to learn, e.g., modifying the curriculum of a secondary career and technical education course. Note: postsecondary curriculum and regulated secondary programs cannot be modified.

Some secondary students with disabilities (ESE) may need additional time (i.e., longer than the regular school year), to master the student performance standards associated with a regular course or a modified course. If needed, a student may enroll in the same career and technical course more than once. Documentation should be included in the IEP that clearly indicates that it is anticipated that the student may need an additional year to complete a Career and Technical Education (CTE) course. The student should work on different competencies and new applications of competencies each year toward completion of the CTE course. After achieving the competencies identified for the year, the student earns credit for the course. It is important to ensure that credits earned by students are reported accurately. The district's information system must be designed to accept multiple credits for the same course number for eligible students with disabilities.