

Course Syllabus

Fundamentals of At-Scene Crash Investigation

Course Length

One Week (40 Hours)

Intended Audience

This is an entry-level crash investigation course for sworn law enforcement officers responsible for documenting and investigating motor-vehicle crashes at the scene.

Students are required to bring a calculator that, at a minimum, can perform square and square root calculations. It would be beneficial for the student to obtain a scientific calculator if they intend to further their education in crash investigation.

Course Description

This new one-week course is replacing the two-week Basic Crash Investigation. The new course provides law enforcement officers with foundational knowledge and practical skills necessary to properly recognize, document, measure, and interpret traffic crash scenes. Emphasis is placed on crash dynamics, human factors, roadway- and vehicle-based evidence, basic crash-mathematical concepts, and legally defensible investigative practices. The course integrates classroom instruction with hands-on field exercises to reinforce accurate data collection and documentation techniques required for effective at-scene crash investigation.

This training is designed to assist officers in developing the technical skills necessary to recognize, record, document, and, when appropriate, collect evidence encountered during the investigation of serious injury or fatal motor vehicle crashes. The information and evidence documented during this course are intended to be preserved and later transferred to investigators with advanced training for further scientific analysis.

It has long been understood that the success of any collision reconstruction depends mainly on the quantity and quality of roadway, vehicle, electronic, and human-related evidence present in a given crash. Reconstruction becomes increasingly complex—and in some cases impossible—when critical evidence is altered, destroyed, lost, or improperly documented. Upon successful completion of this course, officers will possess the skills necessary to conduct more thorough, methodical, and professional crash investigations.

While the techniques taught in this class may not be required for every crash (e.g., minor property-damage collisions), they are especially valuable in cases involving bodily injury or in evolving investigations in which criminal statutes may later be implicated. Societal, departmental, and personal benefits are realized when officers are appropriately trained to recognize and preserve crash evidence, and they develop greater proficiency and efficiency by regularly applying these principles during routine crash response.

Course Syllabus

Technical Crash Investigation and Vehicle Dynamics Analysis

Course Length

Two Weeks (80 Hours)

Intended Audience

This course is designed for sworn law enforcement officers who have demonstrated aptitude in crash investigation and who have the interest, ability, and departmental support to progress toward analytical crash investigation and, ultimately, traffic crash reconstruction.

Prerequisites

Successful completion of Fundamentals of At-Scene Crash Investigation, Basic Crash Investigation, or an equivalent course.

Students are required to bring a scientific calculator, a 360-degree protractor, and colored pencils for class use. Also bring a traffic crash drawing template, if available.

Course Description

This math- and science-intensive course provides police officers with analytical tools and foundational scientific principles used in traffic crash analysis. The course serves as an intermediate yet critical step between an at-scene crash investigation and comprehensive crash reconstruction training.

During this Crash Analyst-level training, students are introduced to the physics and mathematical principles that form the foundation of scientific crash reconstruction. Students will learn to interpret and identify crash evidence amenable to analytical methods and to apply accepted equations to reasonably estimate vehicle speeds, positions, motions, and interactions during collision events.

The course emphasizes understanding how crashes occur, how vehicles respond to forces during impact, and how evidence can be used to assess avoidability and potential criminal recklessness. Instruction is reinforced through instructor-led demonstrations, guided problem solving, collaborative exercises, and student-completed projects.
