

Specialized collision reconstruction training opportunities through the Institute of Police Technology and Management hosted by the Connecticut State Police – Collision Analysis and Reconstruction Squad. These courses will be held at the Connecticut Fire Academy, 34 Perimeter Road, Windsor Locks, CT 06096.

Event Data Recorder Use in Traffic Crash Reconstruction - Level II

January 23 – 27, 2023

\$895

This course builds upon IPTM's *Event Data Recorder (EDR) Use in Traffic Crash Reconstruction - Level I* by teaching you how to apply mathematical concepts to your EDR-based reconstructions. We will begin by reviewing the math and physics concepts necessary to analyze EDR data in more complex non-central collisions. Topics such as the Law of Cosines; the Law of Sines; momentum; closing velocity; and change in velocity relationships will be discussed in detail. You will learn how each of these can be used in your reconstruction.

Actual EDR reports from a variety of collisions will be utilized to show you how to determine all the values necessary for a complete reconstruction. Projects and problem sets have been designed to reinforce the materials presented during lectures and will provide you with the tools you will need to complete actual reconstructions.

Energy Methods and Damage Analysis in Traffic Crash Reconstruction

February 13 – 17, 2023

\$895

During the course, you will learn to view and analyze crashes from an energy point of view. We will explore energy methods beginning with the basics and progressing to more advanced concepts. We will discuss the often-misunderstood topics of Equivalent Barrier Speed (EBS) and delta-V and you will learn different ways to analyze collisions, such as damage momentum, where a traditional conservation of linear momentum may not be the most appropriate analysis. We will also explore the topic of crush. We will examine the basis of the three familiar energy equations that use crush measurements. Outside projects will provide you with "hands-on" experience in examining and measuring crash vehicles and then calculating damage energy and speeds. This course will help you become more comfortable in utilizing energy-based methods in your analysis as we examine the underlying science that computer-based "crash" programs rely upon. It is an excellent complement to other training courses that teach you how to use "crash" software. You should have a firm understanding of the topics of traffic crash reconstruction and conservation of linear momentum as well as strong basic math skills.

Traffic Crash Reconstruction - Level II

February 20 – 24, 2023

\$895

Learn the latest theories and methodologies of crash reconstruction and expand your knowledge of the principles of collision analysis in this advanced course. We will explore topics that have previously received limited coverage, as well as many new ones. While the course can be thought of as "in-service" training for traffic crash reconstructionists, ACTAR candidates will also find it beneficial. We will review the mathematical equations

that are used in conjunction with crash data to interpret how a collision occurred. Emphasis will be placed upon skid characteristics, spin analysis, critical speed yaw analysis, and friction. The concepts of time-distance, uniform circular motion, pole impacts, and conservation of linear momentum are just a few of the topics that will be covered. As part of the course, you will be required to complete several in-class projects and a comprehensive, multi-disciplinary project designed to reinforce the class material.

Investigation of Motorcycle Crashes - Level I

March 13 – 17, 2023

\$795

This course is designed for experienced traffic crash investigators who have a good working knowledge of the techniques and applications of formulas taught in basic crash investigation courses and who wish to build upon that foundation with more advanced mathematical formulas used to analyze motorcycle crashes. Topics include, analyzing and interpreting the motorcycle crash scene, determining acceleration and deceleration characteristics of the motorcycle, analyzing and interpreting modes of instability and handling characteristics in motorcycles, interpreting the operator factor, and reviewing motorcycle tires, helmets and other equipment.

Pedestrian/Bicycle Crash Investigation - Level I

March 27 – 31, 2023

\$795

Pedestrian and bicycle crashes are one of the most frequent types of injurious crashes in urban areas. Because of their unique nature, special techniques are required to investigate and reconstruct these incidents. This course addresses the special dynamics involved in pedestrian and bicycle traffic crashes. From reaction times to victim injury analysis to environmental factors, you'll learn to recognize and interpret the evidence and correlate it with the collision sequence. Topics include, pedestrian impact dynamics, pedestrian conspicuity, reaction time/human factors, and reconstruction techniques.

Investigation of Motorcycle Crashes - Level II

April 10 – 14, 2023

\$895

This course builds on the information covered in *Investigation of Motorcycle Crashes* and presents a more extensive look at the dynamics and operational principles of the motorcycle and rider. We will teach more advanced mathematical formulas and analytical techniques that will provide you with recognized and accepted values to use during a case analysis.

A group project will introduce a method to determine the maximum tire lean angle and contact patch migration. Additional projects will give you an opportunity to individually analyze the information and utilize the equations in real-world scenarios. You will receive a manual of applicable information and test data to reference when investigating motorcycle crashes.

Pedestrian/Bicycle Crash Investigation - Level II

April 24 – 28, 2023

\$895

This course will provide you with the latest theories and approaches to pedestrian/bicycle traffic crash investigations. Building upon the topics presented in IPTM's *Pedestrian/Bicycle Crash Investigation - Level I*, our focus in this advanced class will be on the analysis phase of the crash as well as on collisions that occur at night or during other conditions of degraded visibility. We'll show you how to develop a systematic approach to the analysis of these crashes so that you will have all the tools and data necessary to understand and explain collision avoidance issues. You will be introduced to the equations and data needed to analyze the speed of both the vehicle and the pedestrian/cyclist at impact. Actual pedestrian visibility testing will be conducted to help you understand the visibility issues associated with many pedestrian/cyclist crashes.

Register and pay directly on IPTM's website:

<https://iptm.unf.edu/schedule.aspx#lnEiOiliLCJjYXQiOiliLCJsb2MiOiJXaW5kc29yIExvY2tzLCBDb25uZWNoaWN1dCI=>

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Collision Analysis and Reconstruction Squad (CARS)

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