



Commercial Vehicle Crash Investigation - Level II



Institute of Police Technology and Management
University of North Florida

July 26, 2027 – July 30, 2027
8:00 a.m.- 5:00 p.m.



Holiday Inn

8555 Stansted Road
Indianapolis, Indiana 46241

Check-in July 25th check out August 30th

Course, Hotel room and State Rate per diem for students traveling more than 50 miles are paid for through a grant by Indiana Criminal Justice Institute

To register contact IACAI board member Bob Wilcox at rwilcox1609@gmail.com TX: 260-416-8872

www.iacai.com
www.facebook.com/IndianaIACAI

Commercial Vehicle Crash Investigation - Level II

SECOND IN THE COMMERCIAL VEHICLE CRASH INVESTIGATION SERIES

Designed to further enhance the knowledge and skills you acquired in IPTM's *Commercial Vehicle Crash Investigation–Level I* course, this class focuses on a detailed analysis of commercial vehicle systems and dynamics along with the application of your findings to the crash reconstruction. We will begin by analyzing the ABS air brake system on commercial motor vehicle (CMV) truck-tractors and trailers by conducting tests to determine average air brake chamber pressure. You will participate in a “hands-on” field inspection as we conduct brake tests with a CMV.

We'll teach you how to construct free-body diagrams and formulate equilibrium equations to determine the range of weight distribution on the axles. We will also examine quasi-static and dynamic rollover propensities and conduct an analysis of suspension spring rates.

After a review of high and low speed off-tracking, we will show you how to derive the equations for establishing maximum off-track distance. You will also learn how to interpret and analyze rotational motion that may be present in a CMV crash.

Finally, we will discuss the different types of transmissions used in today's commercial motor vehicles and teach you how to obtain the range of speeds for the vehicle based upon the gear position at the time of the crash.

Topics Include

- Tractor-trailer ABS air brake system
- Hydraulic brake systems in commercial vehicles and how fluid pressures are boosted
- Quasi-static and dynamic rollover propensities and liquid loads
- Axle weight analysis and load reconstruction
- Off-tracking
- Speed from gear ratio
- Rotational mechanics
- Field inspection

Audience

Law enforcement and private traffic crash investigators, claims adjusters, engineers, attorneys, safety officers, military investigative personnel, animators and graphic designers

Course Length

40 hours

Prerequisite(s)

You must have completed, at a minimum, IPTM's *Advanced Traffic Crash Investigation* and *Commercial Vehicle Crash Investigation – Level I* courses.

What to Bring

Required

- Scientific calculator