Energy Methods and Damage Analysis in Traffic Crash Reconstruction
(40 Hours)

For many traffic crash reconstructionists, the topic of energy can be intimidating, mysterious or down right scary. Because of this, reconstructionists shy away from utilizing energy methods in their analysis. This course will help de-mystify the concept of energy and present energy-based methods and techniques to use in analyzing traffic crashes.

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.

Topics include:
• Standards, measurements and dimensional analysis
• Understanding and using conversion factors
• Vectors
• Damage momentum and crush analysis
• Crush measuring protocol and measuring techniques
• Outdoor project - interpreting damage and measuring crush
• Energy concepts and analysis
• Determining appropriate post-impact drag factors
• Understanding EBS and delta-V
• Conservations of linear momentum and delta-V vectors
• Introduction to crush and Hooke’s Law
• Collision analysis using damage momentum
• Understanding and determining stiffness coefficients
• Damage (crush) analysis
• Pole impacts and fracture energy
• Using simultaneous equations to solve in-line collisions

Prerequisite: You must have completed IPTM’s Traffic Crash Reconstruction course or its equivalent.

Audience: Law enforcement and private traffic crash investigators, claims adjusters, engineers, attorneys, safety officers, military investigative personnel

Course Fee: $825

To register for this course online, please visit our website at: www.iptm.org

REGISTRATION AND FEES
Full payment must accompany all registrations. You may register online at www.iptm.org and pay with your Visa, MasterCard, Discover or American Express credit card, or you may download a registration form and mail it to IPTM with a check.

CANCELLATION/REFUND POLICY
Complete the Cancellation Request Form and return it to IPTM. No telephone cancellations will be accepted. A 20% administrative fee will be assessed to all refunds if the cancellation request is received within 14 days of the course start date. In lieu of a refund, student substitutions can be made or a credit can be issued for a future course. No refunds will be given for no-shows.

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COURSE CONIFICATIONS
A minimum number of registrations must be received for a class to run as scheduled. When the minimum criterion has been met, written confirmation will be mailed, faxed, or emailed to you. Please do not make airline reservations until you receive written notification confirming that the course will run as scheduled.

TRANSPORTATION AND LODGING
Most locations are served by several major airlines. Ground transportation, food and lodging are the responsibility of the student. However, hotels in the listed areas offer a special rate to IPTM program participants. For more information, please visit our website at www.iptm.org or call us at (904) 620-IPTM.

CONTINUING EDUCATION UNITS
This Energy Methods and Damage Analysis in Traffic Crash Reconstruction course is eligible for 40 ACTAR CEUs. IPTM Continuing Education Units (CEUs) are also available. Please call us at (904) 620-IPTM for details.