Pedestrian Vehicle Crash Reconstruction

Crash Reconstructionists understand that the human body will behave differently than another vehicle when struck by a vehicle. Because they almost always involve injury, accuracy is especially important when investigating and reconstructing crashes involving pedestrians. In Pedestrian Vehicle Crash Reconstruction, students learn the mathematical equations for kinematics of bodies and the appropriate formulas for varying scenarios.

Students who successfully complete this course will be able to:

• Determine first contact positions
• Estimate the speed of a striking vehicle
• Use appropriate equations to calculate vehicle speeds based on pedestrian and vehicle configurations
• Understand pedestrian motion as a result of an impact
• Develop and use empirical data for pedestrian walking and running

Because pedestrian visibility is often an important question in vehicle-pedestrian crashes, this topic is also addressed. Students will be able to define the visual pathway; understand the effects of illumination, luminance, and glare; and discern the role visual acuity and contrast sensitivity play in the driving process.

These skills enable students to conduct more detailed crash analyses of vehicle-pedestrian collisions. As with other reconstruction classes, extensive use is made of real world case studies.

Course Content

» Collecting information from the road, vehicle, and body
» Pedestrian motion
» Pedestrian walking velocities
» Pedestrian coefficient of friction
» Vehicle speed estimates
» Pedestrian strategy and tactics
» Visibility (including illumination, luminance, and glare)
» Field projects
» Case analysis

Who Should Attend?

Pedestrian Vehicle Crash Reconstruction is designed for people responsible for investigating collisions involving pedestrians and for reconstructionists who wish to expand their abilities to include this very specific skill set.

Successful participation in this course requires a number of prerequisite skills, including solving algebraic equations and understanding vehicle dynamics and laws of motion. Successful completion of NUCPS’s Traffic Crash Reconstruction 1 (or its equivalent) is required and successful completion of Traffic Crash Reconstruction 2 (or its equivalent) is strongly encouraged.

Graduates of Reconstruction 1 and 2 with less than six months of subsequent field experience are not encouraged to attend this course.