



Locations:

Livermore Software Technology Corp.
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Introduction to Passive Safety

Instructor: Alexander Gromer

2 Days - \$400, Students \$200 w/student ID

Includes on-site continental breakfasts, lunches, breaks, class notes, class dinner

Includes 30-day LS-DYNA® demo license to practice

Prerequisite: Attendees should have basic LS-DYNA® experience.

Objective: To present the most important features of LS-DYNA® with respect to occupant safety simulations. Insights will be provided on how to deal with the various components involved, such as airbags, seatbelts, crash-test dummies and seats. During this training, particular emphasis will be on modeling methods for practical application.

Description:

This course is mainly designed for beginners working in the field of occupant safety (especially dealing with side, frontal and rear impact). We will provide an overview of state-of-the-art airbag modeling and explain the fundamentals regarding the composition of a LS-DYNA® occupant safety simulation, including the positioning and fitting of seatbelts to the dummy and the definition of recommended contacts between the safety systems. Attendees will be given the opportunity to apply their acquired knowledge in sample exercises.

Contents:

- Overview of current impact load cases: side, frontal, rear crash
- Available dummy models in LS-DYNA®, and their validation methods
- Materials, elements and connections used for occupant safety simulations
- Overview of composition and usage of safety-relevant vehicle components
 - Seat, Interior, Airbags
 - Body-in-white modeling
- Usage of dummies
- Overview of positioning methods
 - Positioning inside the vehicle with OASYS PRIMER® and LS-PrePost®
- Settling of dummies
 - Pre-stress in seat cushion foams
- Usage of seat belts
 - Modeling seat belts, slings and pretensioners
 - Fasten the seat belt for the dummy with OASYS PRIMER® and LS-PrePost®
- Evaluation of the results
 - Dummy signal evaluation
 - Injury criteria
- Example of a modular occupant safety model
 - Appropriate composition and structure
 - Contact between components