



Locations:

Livermore Software Technology Corp.

7374 Las Positas Rd. Livermore, CA 94551

1740 West Big Beaver Road Troy, MI 48084

Contact: classes@lstc.com

www.lstc.com/training

Shock Analysis with USA / LS-DYNA

Instructor: Tom Littlewood

3 Days - \$750 Students \$375 w/student ID

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

Prerequisites:

1. **Students must be directly employed by a current USA licensed entity, typically a government agency or corporation.**
2. **International students must preregister for the class through a purchase order of the USA licensed entity. That purchase order must identify the attendee by name, department, supervisor, and passport number. The attendee must present the passport when attending.**
3. **Prior LS-DYNA experience is recommended because there are exercises throughout the class.**

Course Outline

- **DAA Field Solver**
 - Fluid structure interaction and DAA background
 - Fluid boundary mass matrix development and modeling procedures
 - Fluid structure interaction approximations and block low rank solution methods
 - Time integration procedures
 - Shock wave loading, bubble loading, and combined shock-bubble loading
 - **NRB Field Solver**
 - Potential formulation for cavitating acoustic fluids
 - *mat_acoustic procedures in LS-DYNA and usage with USA
 - **Miscellaneous**
 - Hydrostatics, preloads, residuals, in-fluid natural frequencies, and MPP usage
 - Cavitating spectral element and cavitating fluid element alternatives to *mat_acoustic
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