

LS-DYNA® Training

By Predictive Engineering

Explicit, Nonlinear, Large Deformation
Analysis for Structural Mechanics



When: Jan 27-30, 2014

Where: Portland, Oregon

Cost: \$2380/student. Students may attend the Analysis for Structural Mechanics training (four days) or the full week with the addition of DEM/CFD/FSI training on the fifth day for an additional \$575/student.

What's Included: Course manual, notes and workshop video files will be provided on a flash drive for post-class refresher training. One lunch and one social event are provided to encourage class interaction with fellow users. Course provides certification of 32 hours of professional continuing education credits.

Registration: Early registration is encouraged since space is limited to 18 students and it is expected that the class will fill. *To register please send email to:*

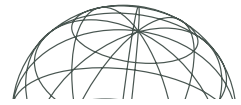
Training@PredictiveEngineering.com

Attn: George Laird, Ph.D., P.E.

About Predictive Engineering

Based in Portland, Oregon, Predictive has 15+ years experience with LS-DYNA consulting, services and training. References available at our website:

www.PredictiveEngineering.com.



FINITE ELEMENT ANALYSIS

Predictive Engineering

Engineering Short Course

This week-long course is directed toward the engineering professional simulating highly nonlinear, transient dynamic problems involving large deformations and contact between multiple bodies. What this means in more layman terms is that we will provide a realistic foundation toward the practical usage of LS-DYNA, taught by practicing engineers for engineers.

The course is fast paced and follows a workshop format with theory, practice and Q&A sessions.

Course Outline

Day 1: Theoretical Foundation

- I. Implicit versus Explicit
- II. Explicit Time Step Significance / Mass Scaling (Workshop)
- III. Meshing for Explicit Success (Workshop)
- IV. Explicit Element Technology (Workshop)

Day 2: LSPP & Material Modeling

- I. LS-PrePost Philosophy (Workshop)
- II. Material Modeling: Metals, Elastomers, Foams (Workshop)
- III. Equation of State (EOS)
- IV. Material Failure & Fracture (Workshop)
- V. Rigid Bodies (Workshop)

Day 3: Contact & Load Initialization

- I. Contact Theory & Application (Workshop)
- II. Edge-to-Edge Contact & Other Pathologies (Workshop)
- III. Tied-Contact: Mesh Transitions, Gluing, Welding (Workshop)
- IV. Negative Sliding Interface Energy (Workshop)
- V. Implicit-to-Explicit Switching: Load Initialization (Workshop)

Day 4: Drop Test, Damping & Bird Strike (SPH)

- I. Dynamic Relaxation for Bolt Preload (Workshop)
- II. Damping (Workshop)
- III. Drop Test Simulation (Workshop)
- IV. Smoothed Particle Hydrodynamics (Workshop)
- V. Bird Strike / Ballistic Impact (Workshop)

Day 5: Multiphysics with LS-DYNA (DEM/CFD/FSI)

Optional fifth day of discrete element modeling, CFD & fluid structure interaction with thermal effects.