

Course Details for Advanced SoftMEMS / MEMS Pro Training

First section covers how to create your own technology.

L-Edit Technology Setups

- Creating a New Design-
 - Design data file and database types
 - Technology references
- Setup Technology
 - Setting up a tech reference
 - Importing a Technology
 - Exporting a Technology
- Libraries
 - Library Navigator
 - Setting up a Design Library
- Setting up layers
 - Setup Layers dialog
 - Adding
 - Purpose
 - Special layers
 - Setup information
 - Rendering, mode and pass
 - Setting up colors
 - Derivation and Boolean operations
 - Generating layers
 -
- Setting up grids
 - How grids are used in L-edit
 - How to choose and set up proper grids
- Design Kits
- Design Management using hierarchy with Libraries, Pad cells

Advanced Layout

- Boolean operations on selections
- Base Points
- Object Snapping
- Alignment Commands

Advanced Input/Output

- GDS Input/Export
- DXF

3D Modeling

- Toolbar overview
- Process Import/Export
- 3D Model Generation
- Step by step display
- Viewing Controls
- Cross-section
- Region Based 3D Visualization
- Z-Scaling
- 3D model Output

Technology Management

- Material Properties Setup
- Process Definition Setup
- Process commands

Advanced Layout topics

- Additional Layout commands
 - Tips
 - Multigrid toolbar
 - Find commands
 - Rulers
- Curves
 - Edge conversion
 - Conversion from Polygon
 - Chamfer/Fillet
- Wires
 - Setup
 - Usage
- Built-in Macros
 - Mask bias
 - Image Import
 - Text Generator
- Cell Operations
 - Flattening
 - Editing in Place
 - Hierarchy Navigation
 - Locking
 - ClipOut
 - Save to TDB
- Advanced Boolean Operations
 - Select- Inside/Outside
 - Touch/Select/Overlap
 - Cut/Vertex
 - Area/Density

- MEMS Pro Toolbar features
- UPI- scripting
- T-Cells
- DRC

Advanced Modeling

- Defeaturing models
- Document Fabrication Process
- Multi-model Output
- Process Documentation- EXCEL, ppt
- Model Documentation-Camera, Movie
- 2D Models
- Hierarchical output
- Using SoftMEMS in a team

From Layout to Finite Element Analysis

- Good layout preparation
- Boundary conditions on Layout
- Material manipulation
- Creating air volumes in MEMS Pro
- Meshing strategies
- Reading in models into COMSOL, ANSYS

Scripting Solid Modeling for Use in FEM and Monte Carlo

- Managing Fabrication Process variation
- Creating solid models in batch mode
- Command line options
- Matlab scripting of solid models