

**Up to four full days
dedicated to designing
products with
plastic and metal.**

All courses include a reference design guide maintained by frequent free updates after the course. Students are also given access to additional process design guides like EMI Shielding, Vacuum Forming Plastic Design and more, in addition to design aids. *Each course provides state of the art product development skills needed by CAD operators, mechanical designers, mechanical engineering and management control, material engineering and management.*

The course is presented by a review of the provided design guides in combination with videos of product manufacturing processes and product samples used for discussion.

We have presented many successful in-house and scheduled seminars for individuals and companies. Read student reviews posted on our web site.

Fee:

The in-house cost is \$400 per student day plus instructors expenses. The minimum is 12 student days consisting of any combination of courses or students. In-house group seminars by appointment with substantial savings.

Contact:

The Institute for Competitive Product Design
4985 Park Rim Drive
San Diego, CA 92117
Phil Marsh (858) 272-1300
phil@designseminar.com



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A product cannot be produced competitively if it is not designed to be competitive.

ICPD

Institute for Competitive Product Design

**COMPETITIVE
PRODUCT DESIGN
IN-HOUSE
SEMINARS**

**Injection Molded Plastic
Sheet Metal
Machined Parts
Extruded Metal Parts
Cast Metal Parts
Platings & Coatings**

- A seminar for Designers and Mechanical Engineers pursuing a career in Product Design Engineering.
- Learn how to design for five manufacturing processes in four days.
- Receive well written design guides tailored for day to day reference.
- Handle sample parts.
- See videos of most processes.
- Continuous manual updates.
- Special seminar survivors web site with more design guides.

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www.DesignSeminar.com

Two Day Seminar

Plastic Injection Molding Design

This two day seminar will simplify and clarify the plastic design process for the novice and expand the capabilities of the experienced plastic part designer. Just the facts; all of the essentials, with a manual that will become a lifetime reference.

- Plastic Forming Processes
- Injection Mold Tooling
- Plastic Part Design Properties
- Astm Test Methods
- Finished Part Properties
- Plastic Families
- Resin Descriptions
- Plastic Application Selector
- Plastic Fillers
- Plastic Additives
- Emi Shielding Techniques
- Part Design Guidelines
- Review Part Design Samples
- Assembly Methods
- Drawing Notes
- Rapid Prototyping
- Snap Fit Design
- Light Pipe Design
- Overmolding, Miromolding
- Analysis, Bearings, Gears

Individual training provided at scheduled locations. In-house group seminars are by appointment with substantial savings.

One Day Seminar

Sheet Metal Design & Platings & Coatings for Designers

This one day seminar will teach product designers what machinable shapes are available and in-depth methods of sheet metal design for products used in the consumer, medical, and military industries. In addition, a review of Platings & Coatings available for product design will be covered. Each subject includes a design guide for reference and guidance.

- Machine Tools And Shapes They Make
- Sheet Metal Machinery
- Punched Sheet Metal Shapes
- Standard Tools
- Special Operations
- Drafting And Dimensioning
- Formed Metal Examples
- Sheet Metals
- Welding Sheet Metal
- Standard Platings
- Galvanic Chart Application
- Plating And Coating Methods
- Metal Surface Texturing
- Plating And Coating Notes

Instructor **Phil Marsh** has been in the mechanical product design profession since 1965. He received his Mechanical Engineering Degree in 1975. The past eighteen years he has consulted full time in product design and design reviews and taught seminars on several manufacturing processes. Products designed include medical products such as disposable medical devices, hospital systems, a kidneystone lithotripter, portable MRI, and a Gamma scanner, consumer products for Comdex and the Consumer Electronics Show and sports products, military products for the V-22 Osprey, A-12 Stealth bomber, KC-135 tanker, M-1 tank, combat soldier training equipment, and communications equipment for NATO and the USAF. Clients have included NCR, National Semiconductor, SAIC, Nortel Networks, Cubic, Hamilton Sundstrand, Sega, WindRiver, Hewlett Packard, Kodak, and many smaller companies with a wide range of product design challenges.

One Day Seminar

Designing Extruded Metal Parts & Designing Cast Metal Parts

with Rapid Prototyping Metal Castings

The essentials are presented at this one day seminar to give the designer the confidence and knowledge to use these processes in their designs. Two separate design guides are provided in addition to videos of the extrusion and casting processes.

- The Aluminum Extrusion Process
- Aluminum Alloys And Temper
- Shape Design Practices
- Design Examples
- Shape Tolerances
- Sample Extrusion Drawings
- Metal Casting Processes
- Process Selection Criteria
- Comparison Of Casting Processes
- A General Drafting Manual
- Rapid Prototyping Castings
- Metals For Castings

This is currently the only classroom resource in the USA for most of this product design training.