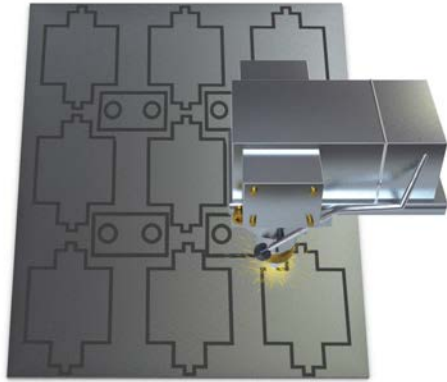


METAL FORMING PROCESS SELECTION

eLearning courses designed to increase productivity and profits



Learning made Simple, Visual, and Interactive

The purpose of this course is to provide learners with a greater understanding of the various processes utilized for forming sheet metal. The advantages and disadvantages of each process, along with important factors such as part volume, material transportation, and packaging constraints, are also taken into consideration.

Credit Hours **1**

Learning Objectives

- 💡 Recall the common blanking and metal forming processes.
- 💡 Understand the typical product design expectations.
- 💡 Recognize the important design factors for part manufacturing.
- 💡 Recall the important factors that determine design for manufacturability (DFM), design for assembly (DFA), and design for serviceability (DFS).
- 💡 Understand the distinction between part piece price and part cost.

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I. Blanking and Metal Forming Processes

- **Blanking Processes**
 - o Shearing
 - o Water Jet Cutting
 - o Laser Cutting
 - o Plasma Cutting
 - o Flame Cutting
- **Metal Forming Processes**
 - o Bulk Forming
 - Extrusion
 - Roll Forming
 - o Sheet Forming
 - Press Braking
 - Deep Drawing
 - Stamping

II. Process Selection Factors

- **Product Design Expectations**
- **Important Design Factors**
- **Part Cost**
- **Design for Manufacturability**
 - o Part Volume
 - o Process Availability
 - o Material Availability
 - o Tooling Constraints
- **Design for Assembly**
 - o Ergonomic Considerations
 - o Process Availability
 - o Adjustment Considerations
 - o Installation Convenience
- **Design for Servicability**

III. Case Study Examples

- **Case Study for Cover Part**
 - o Part Requirements
 - o Part Piece Cost
 - o Part Volume
 - o Other Factors
- **Case Study for Bracket Part**

