Level 1 - Introduction to Plastics 1- Historical Look At Injection Molding 2- How Plastic Materials Are Made 3- Plastics, Defined - What is Plastic? - Thermoplastic vs. Thermoset - Amorphous vs. Crystalline - The Polymerization Process	**Level 2 - Basic Mold Construction** 1 - Purpose / Function of Mold 2 - Mold Components - Sprue Bushing - Locating Ring - Mold Halves - Cavity Plate Sets 3- The Flow Path - Runners and Gates - Hot Runners - Vents - Ejection System
Level 3 - The Molding Machine 1- Operation Concept 2- The Main Components - Injection Unit - Clamp Unit - Frame 3- Auxiliary Equipment - Dryer Units - Loaders - Blenders - Granulators - Mold Temp Controls - Robots	**Level 4 - Process Parameters** 1- What Happens To The Plastic? - Heat Applied - Pressure Applied - Cooling Applied -The Importance of Drying 2 - The Setup Sheet (Setup Data) 3 - The Four (4) Main Parameters a - Temperature b - Pressure c - Time d - Distance 4 - Shrinkage
Level 5 - Secondary Operations 1- When To Use Secondary Operations 2- Estimating Process Costs 3- Common Secondary Operations - Ultrasonic Welding - Spin Welding - Adhesives / Solvents - Painting - Metallizing - Plating - Hot Stamping - Pad Printing - Silk Screening	**Level 6 - Role of the Operator** 1 - Focus of the Operator's Role 2 - Consistency 3 - Inspection - Parts - Mold - Machine 4 - Housekeeping and Attitude **Resources** **Set Up Sheet Example** **Rules-Of-Thumb** **FINAL TEST**