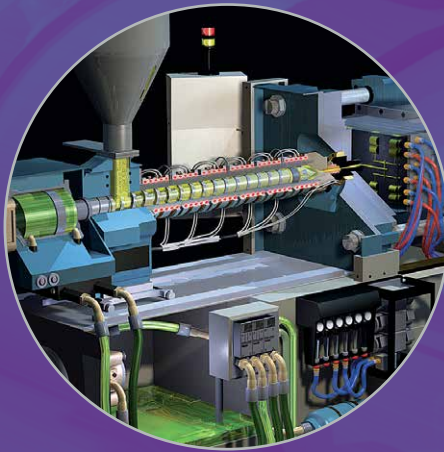


# Powerful Training. Proven Results.



The Global Leader in Plastics Training

# Training Solutions from Paulson

## SkillUp Your Workforce with Powerful Plastics Training

Count on Paulson to deliver premium online courseware, instructor-led Certification seminars, and leading-edge injection molding simulation and transform ordinary personnel into confident plastic processors. Fully understanding processing from the “Plastics Point of View,” (PPV), and grasping the concept of the “Four Plastic Variables,” is knowledge that will always be relevant and keep you one step ahead. Physics doesn’t change, plastic reacts to just four things—heat, flow, pressure, and cooling. Learn that and there’s no processing problem you can’t solve. Plus, with Paulson’s powerful online platform, **Paulson University**, you can train at your own pace, anywhere, anytime, and on any device. Successful plastics companies consistently turn to Paulson when they need powerful, flexible, and proven training solutions. Explore your options with Paulson and learn how you can become an in-demand skilled processor.



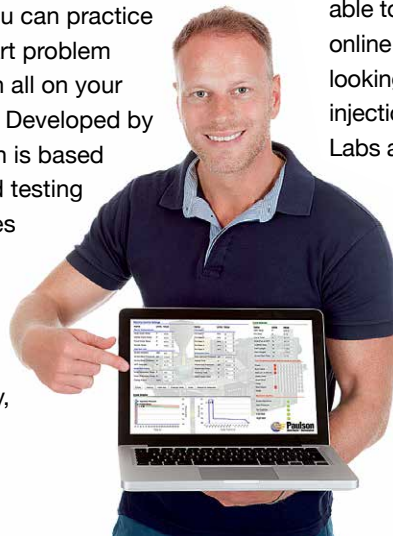
## ► SkillTest is the Key

Your training journey begins with SkillTest, Paulson’s online knowledge assessment tool. This first step is the key to unlocking your employees’ potential. By quickly and simply finding out your employee’s strengths and weaknesses, you can then create a customized training path for your team that efficiently upgrades their skills.

## ► SimTech™

### Supercharge Your Training with Injection Molding Machine Simulation

Develop molding experts right in your manufacturing plant with the world’s most powerful injection molding machine simulator, SimTech. Just like airline pilots practice aviation concepts on a flight simulator before actually flying, injection molders can practice molding skills with SimTech before running an actual molding machine; saving thousands of dollars, valuable machine time, and avoiding potential risk to the machine or operator. You can practice machine set-up, molded part problem solving, and cycle reduction all on your computer or mobile device. Developed by Paulson engineers, SimTech is based on decades of research and testing and will take your employees to a whole new level of understanding the molding process. Supercharge your training with SimTech and dramatically improve quality, production, and profits.



## ► The Simulation Advantage 🇪🇸

### Molding Simulation Labs—Get the Simulation Advantage.

What sets Paulson apart? Science-based concepts with simulation learning. Paulson’s SkillBuilder and SimTech Discovery Labs are the key to mastering injection molding concepts. Both labs are powered by SimTech, Paulson’s exclusive and proprietary injection molding machine simulator, and are built right into each of the online injection molding series of courses. These interactive labs offer a unique opportunity to learn by doing, which is the most effective way to master any new skill. SkillBuilder Labs, available in both English and Spanish, are a set of guided lab lessons while SimTech Discovery Labs take things to the next level by giving learners the freedom to explore and experiment on their own. Learners can test new ideas and see how they work in a safe and controlled environment. Being able to immediately apply key injection molding concepts covered in the online courses is a highly effective and safe way to advance skills. If you’re looking to improve your team’s molding skill, Paulson’s online series of injection molding courses with SkillBuilder Labs and SimTech Discovery Labs are the best way to get there.

“Extremely fun and forward thinking, Paulson classes and instructors will challenge you and enrich your skill set!”

— Tony Mitchell, Senior Design Engineer, Cisco Systems

## Injection Molding Training



### Injection Molding Fundamentals

2 Lessons, 2 Hours

A two lesson, 2 hour training program teaching new employees and personnel the most important and fundamental aspects of the injection molding production floor and molding process. This course emphasizes production efficiency, safety and teamwork.

### Core Injection Molding Courses with Injection Molding Simulation Labs

19 Lessons, 21 SkillBuilder Labs,  
36 SimTech Discovery Labs, 50–65 Hours

Paulson's core injection molding courses cover the span of scientific molding principles from the fundamentals to advanced topics. Each level in the series includes active molding labs, beginning with SkillBuilder Labs (available in English and Spanish) and the more advanced SimTech Discovery Labs. Both labs are powered by SimTech, Paulson's exclusive online injection molding machine simulator. The *Technology of Injection Molding* series is broken down into three modules to help students easily progress through the intensive content while building a strong base of scientific injection molding knowledge.

### Technology of Injection Molding – Level 1

8 Lessons, 14 SkillBuilder Labs,  
12 SimTech Discovery Labs, 20–25 Hours

**Build the Foundation.** This robust online course is the first in a series of Paulson's core injection molding courses and features Paulson's innovative virtual molding machine labs called SkillBuilder and SimTech Discovery labs. At this point, learners can immediately apply and practice key concepts covered in the course. Each lesson teaches technical concepts in easily digestible segments. Students learn the basic foundations of injection molding including the most important, how to process plastic from the "Plastics Point of View," (PPV) and the "Four Plastic Variables," crucial concepts pioneered by Paulson.

### Technology of Injection Molding – Level 2

6 Lessons, 7 SkillBuilder Labs,  
12 SimTech Discovery Labs, 15–20 Hours

**Optimize the Process.** Employees will gain a deep understanding of the scientific method and the effect of each machine control on the four basic variables. Based on a scientific approach, this course analyzes ways to improve productivity and build a solid optimized process. Learned concepts are immediately put into practice using SkillBuilder Labs and SimTech Discovery Labs built right in.

### Technology of Injection Molding – Level 3

5 Lessons, 12 SimTech Discovery Labs\*, 15–20 Hours

**Master Injection Molding.** This course teaches the "why" behind injection molding and is designed for those wishing to be at the expert molding level. The lessons focus on the relationship between machine controls, the four plastic variables, and part properties. Understanding this relationship allows a molder to best optimize the molding cycle.


\*SimTech Discovery Labs Coming Soon


### Injection Molded Part Problems & Solutions with Simulation Labs


11 Lessons, 7 SkillBuilder Labs,  
12 SimTech Discovery Labs\*, 25–30 Hours

This course is designed to train in the recognition and analysis of part defects utilizing the four plastic variables contributing to the defect. Topics covered include: Voids, Sink Marks, Short Shots, Flash, Weld (Knit) Lines, Splay (Silver Streaks), Jetting, Burn Marks, Warp, Cracks and Part Breakage, and Controlling Molded Part Dimensions. Following the lesson portion of the course, learners immediately enter into the simulation labs with SkillBuilder Labs and SimTech Discovery Labs where they will apply and practice key concepts covered in the course.

\*SimTech Discovery Labs Coming Soon

 Available in Spanish

 Available in Mandarin

 Available in Hebrew



Gracie,  
the happiness  
ambassador

## Language Options

Paulson offers custom language options for all online courses.

And many courses can be customized to include sub-titles.

## Specialized Injection Molding



### Electric Injection Molding Machine

3 Lessons, 5–6 Hours

This course covers electric machine design, cycle and parts, the effects of each control and specific operating techniques to optimize routine operations including clamp settings and screw controls; all specific to the electric machine environment.

## Efficient Mold Setting

2 Lessons, 2–3 Hours

Training course demonstrating how to efficiently set up a mold, troubleshoot mold problems, and properly remove and prepare mold for storage.

## Implementing Decoupled Molding<sup>SM</sup>

3 Lessons, 5–6 Hours

Training course developed in cooperation with RJG, improves process consistency by separating the molding process into 3 phases: filling, packing and cooling.

## Hot Runner Molding Solutions

5 Lessons, 8–10 Hours

Course describing different manifold and gate designs, startup and shutdown techniques, troubleshooting and maintenance procedures for hot runner molding processes.

## Statistical Process Control

3 Lessons, 5–6 Hours

Focuses on increasing SPC skills, how to maintain correct SPC procedures and how to document and train new personnel in SPC requirements.

## Plastic Drying Technology

2 Lessons, 2–3 Hours

Training course demystifying plastic drying by explaining how plastic drying is done, how to check dryer operations, and how to troubleshoot problems caused by incomplete moisture removal.

## Design of Experiments for Injection Molders

3 Lessons, 5–6 Hours

Co-authored with Launsby Consulting, providing 5+ hours of training on how to design an experiment by explaining common terminology and exploring various design of experiment techniques.

## Understanding Materials for Profitable Molding

10 Lessons, 8–10 Hours

A collection of individual lessons on 10 commonly used materials providing an overview of chemical & physical properties as well as molding characteristics of a specific raw material type. Lessons include: Polycarbonate (PC), Polypropylene (PP), Polyethylene (PE, LDPE, HDPE, LLDPE, UHMWPE), Nylon (PA), ABS, Polystyrene (PS), Acrylic (PMMA), Acetyl (POM), Polyester (PBT), Thermoplastic Elastomers (TPE).

## Injection Molding Machine Maintenance

2 Lessons, 2–3 Hours

Instructional program demonstrating the proper machine maintenance procedures for all hydraulic injection molding machines.

## Extrusion Training



### Extruder Operation and Control – Single Screw 🇪🇺

11 Lessons, 16–20 Hours

Training on the fundamentals of single screw technology, including parts and operation, plastics used for extrusion, extruder controls, safety procedures, troubleshooting and more.

### Compounding with the Twin Screw Extruder 🇪🇺

8 Lessons, 14–16 Hours

Training on the fundamentals of compounding with a twin screw extruder, including parts and operation, raw materials used, plastic behavior, optimizing controls, safety and startup procedures, troubleshooting and more.

### Sheet Extrusion Technology 🇪🇺

7 Lessons, 12–14 Hours

Training designed for use in conjunction with our 9-lesson single screw extrusion course. Providing overview of sheet extrusion technology ranging from parts and operation to controlling plastic flow in the die to troubleshooting the sheet extrusion line.

### Extrusion Blow Molding 🇪🇺

7 Lessons, 12–14 Hours

Training on the fundamentals of extrusion blow molding technology, including process and equipment, plastic behavior, operating controls, operating procedures, processing conditions and problems and solutions.

## Thermoforming



### Thin Sheet Thermoforming

6 Lessons, 10–12 Hours

Co-authored with industry expert Mark Strachan, this course offers complete training on all aspects of the thermoforming process. Topics covered include operation of the machinery used in thermoforming, the function of each component in the thermoforming line, plastic behavior during the thermoforming process, sheet extrusion fundamentals, optimizing operating controls, safety around the thermoforming machinery and thermoforming for maximum efficiency and profit.

### Thick Sheet Thermoforming Technology

5 Lessons, 8–10 Hours

Training on the fundamentals of the thermoforming process; types of machines, in-line and rotary, the five phases of the cycle, and the effects of each phase on quality and production. Personnel will become familiar with the causes of part variations resulting from heating, forming or cooling errors, and the after-molding effects that can cause additional shrinkage and warp.

## PET-ISBM



### **PET-Injection Stretch Blow Molding**

2 Sections, 2 Hours

Polyethylene terephthalate, usually referred to as PET, is the most common plastic used for many injection blow molded packaging goods. Paulson's comprehensive, interactive training course on PET – Injection Stretch Blow Molding Process, teaches the PET processor the characteristics of PET and how to efficiently and safely process it.

## Specialized Engineering Training



### **Geometric Dimensioning & Tolerancing (GD&T)**

10 Lessons, 15–20 Hours

A complete offering of Geometric Dimensioning and Tolerancing (GD&T) training by industry leader Tec-Ease, Inc. GD&T is recognized around the world as the only effective way to define part geometry of mechanical parts by using a system of symbols, rules and definitions. Advantages include clear design intent, shorter cycle time from concept to launch, fewer engineering changes, and less trouble-shooting at startup. GD&T is standardized and mathematized which means that anyone who knows the Standard, knows what the drawing means.

### **Blue Print Reading**

7 Lessons, 10–14 Hours

Industrial prints are an integral part of documenting manufacturing processes. This 16-hour course, developed by industry leader Tec-Ease, is intended for all personnel who need to understand the meaning of drawings and prints. Emphasis is placed on understanding multiview relationships, and symbology. Numerous exercises involving print reading will be utilized throughout.

“With Paulson you learn! The information gained in the ProMolder class is too valuable not to continue on multiple levels.”

—Paul Boettcher, Le Seur Inc.

## Paulson Plastics Academy



Experience world-class instructor-led Certification seminars with the Paulson Plastics Academy held virtually or in-person in multiple technical facilities nationwide. Taught by expert instructors, seminars are designed to teach key scientific principles and crucial optimizing strategies for injection molders, extrusion processors, blow molders, and thermofomers. Paulson seminars can take your personnel from beginner to expert with intense instruction in the foundations of processing plastic as a scientific process. All seminars are vendor-neutral and include a free screening test to ensure proper placement. Hands-on learning with machine time is included when possible and most classes engage attendees with Paulson's exclusive and powerful injection molding machine simulator SimTech. Additional seminars include Profitable Molding for Managers and a highly popular troubleshooting course.

## Customized Training Services



### **Custom OnSite Training and Consulting Services**

Need training tailored to your particular needs and operations? We can bring our expertise to you by hosting a personalized seminar with our technical instructors in your facility. We also offer consulting services to help you navigate specific molding or plastic material challenges either in a scheduled online teams meeting or with an in-person visit.











Paulson provides a number of additional training products and services that can be customized to meet your specific training needs, including:

- Training Needs Analysis
- OnSite Program Review & Support
- Customized Reporting



## Unparalleled Customer Service & Technical Support

Paulson customers enjoy personal attention with a dedicated success manager, excellent tech support, onboarding assistance, advancements, and bonus training materials. And, you'll always reach a live person when you call the Paulson office. Paulson is your source for powerful plastics training.

	Hours of Training	Non-affected	Affected		
		Office Admin Non-operational support, shipping & janitorial staff	Technician Operators, set up, part handlers, maintenance & entry level technicians	Processor Senior & process technicians, quality auditing personnel, shift supervision, value stream & plant managers, troubleshooters	Expert Senior process & manufacturing engineers, technical operations, management, R & D personnel, senior process experts
<b>Injection Molding</b>					
Injection Molding Fundamentals 	2				
<b>Core Injection Molding Courses with Active Machine Simulation Labs </b>					
Technology of Injection Molding – Level One 	20–25				
Technology of Injection Molding – Level Two 	15–20				
Technology of Injection Molding – Level Three 	15–20				
Injection Molded Part Problems & Solutions 	25–30				
SimTech™ Injection Molding Simulation Lab Lessons	unlimited				
<b>Specialized Injection Molding</b>					
The Electric Injection Molding Machine	5–6				
Efficient Mold Setting	2–3				
Implementing Decoupled Molding	5–6				
Hot Runner Molding Solutions	8–10				
Statistical Process Control	5–6				
Plastics Drying Technology	2–3				
Design of Experiments for Injection Molders	5–6				
Understanding Materials for Profitable Molding	8–10				
Injection Molding Machine Maintenance	2–3				
<b>Extrusion</b>					
Extruder Operation and Control – Single Screw 	16–20				
Compounding with the Twin Screw Extruder 	14–16				
Sheet Extrusion Technology 	12–14				
Extrusion Blow Molding Technology 	12–14				
<b>Thermoforming</b>					
Thin Sheet Thermoforming	10–12				
Thick Sheet Thermoforming	8–10				
<b>PET-ISBM</b>					
PET-Injection Stretch Blow Molding	4				
<b>Specialized Training Courses</b>					
Geometric Dimensioning & Tolerances	15–20				
Blue Print Reading	10–14				
<b>Paulson Plastics Academy</b>					
ProMolder 1 Certification	30				
ProMolder 2 Certification	38				
ProMolder 3 Certification	38				
Profitable Molding for Managers	24				
ProMolder Troubleshooting	30				
ProEx 1 Extrusion	30				
ProEx Blow Molding	22				
<b>Customized Training Services</b>					
On-Site Custom Seminars					
Consulting Services					

