e-Learning courses for the Manufacturing Industry specializing in Systems, Manufactured Products, Manufacturing Processes, Materials, and Manufacturing Fundamentals.

THORS Academy Course Library

V12.02.2024 (194/387.25) Course Titles subject to change

Systems

- Autonomous, Connected, Electric, and Shared (ACES) Vehicle Fundamentals
- Braking Systems: Hydraulic Braking Systems: Pneumatic Differential Basics

- Drive Axles: Heavy Duty Commercial Vehicles
- **Electric Vehicle Battery Basics**
- Engine Fundamentals: Internal Combustion
- Engine Testing Methods and Systems: **Internal Combustion**
- Exhaust Gas Recirculation (EGR) System
- Filtration Systems for Transportation and **Industrial Applications**
- Heating, Ventilation, and Air Conditioning (HVAC) Basics
- Lithium-Ion Battery Manufacturing
 Lithium-Ion Battery Testing
 Lithium-Ion Battery Testing

- Steering System Basics
- Suspension System Basics
- Traction Motor Stator Assembly Process
- Traction Motors for Electric Vehicles
- **Transfer Case Principles**
- Transmission Fundamentals: Automatic

Manufactured Products

Bearings

Bearing Fundamentals

- **Belts**
- Belt Classifications: Poly V Belts
- Belt Classifications: Round & Flat Belts Belt Classifications: Special Belts
- Belt Classifications: Synchronous Belts Belt Classifications: V Belts

Chain Fundamentals: Industrial Compressors

- Compressor Fundamentals: Positive Displacement
- Compressors: Ancillary Equipment

Electrical and Electronics

- Electric Motor Fundamentals
- **Electrical Power Introduction**
- Electronic Terminology
- Embedded System Basics
 Printed Circuit Board (PCB) Basics
- Semiconductor Basics
- Semiconductor Manufacturing I Semiconductor Manufacturing II
- Semiconductor Metrology Basics
- Variable Frequency Drive (VFD) Basics

Fasteners

- **Bolted Joint Basics**
- **Threaded Fastener Specifications**
- Threaded Fastener Terminology and Components **Threaded Fastener Testing and Defects**
- Gearboxes

Gearbox Basics

Gears

- Bevel and Hypoid Gear TerminologyCylindrical Gear Manufacturing
- Troubleshooting Gear Chart Interpretation-Elemental
- Measurements on Cylindrical Gears
- Gear Fundamentals
- Generating Gear Grinding I
- Generating Gear Grinding II
- Spur and Helical Gear Terminology

Hydraulics

Hydraulic System Fundamentals

- Oil Seal Fundamentals: Rotary Applications
- Seal Basics

Product Design

- Forging Die Design Essentials Product Noise, Vibration, and Harshness (NVH) Troubleshooting Spur and Helical Gear Design
- **Fundamentals**

- Pneumatic Tires: Tire Defects
- Pneumatic Tires: Tire Labels and Markings

Pneumatic Tires: Tire Terminology

Valves Valve Basics

Wheels

Wheel Basics

Sales

Understand Customer Personality Styles to Help You Sell More Effectively

The THORS Academy Course Library is constantly growing with 2-3 new titles being added each month. Please use the QR code below to view our most current list with links for details about each course.



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To search for any word: Use CTRL+F (or Command+F on the Mac

To view more information about a course: Click on the Course Name

Manufacturing Processes

Additive Manufacturing

- Additive Manufacturing Stereolithography Castings
 - Aluminum Melting Fundamentals
 - **Bonded Sand Aluminum Casting Basics**
 - **Bonded Sand Fundamentals**
 - **Bonded Sand Iron Casting Basics**
 - Bonded Sand: Horizontally Parted Molds
 - Bonded Sand: Mold Patterns

 - Bonded Sand: Vertically Parted Molds Charge Calculation for Cast Irons Chemically Bonded Sand Basics
 - Cupola Furnace Fundamentals Cupola Furnace Operations

 - Cupola Furnace Troubleshooting and **Techniques**
 - Foundry Cleaning Room Equipment
 - Gating and Risering Basics
 - **Gravity Die Casting Basics**
 - Green Sand Defect Analysis Green Sand Equipment and Process Control
- Green Sand Properties
- Green Sand Testing High Pressure Die Casting Basics
- Induction Melting Furnace I Investment Casting Basics
- Iron Melting Fundamentals
- Low Pressure Die Casting Basics **Quality Inspection for Steel Castings**
- Vacuum Process Fundamentals

Heat Treating

- Heat Treating Basics (available in Spanish)
- Heat Treating Processes and Equipment
- Heat Treating Safety
- **Heat Treating Testing and Defects**

Injection Molding Process

Injection Molding

- Injection Molding Terminology
 Injection Molding Troubleshooting
- Metal Cutting Centerless Grinding I

 - Cylindrical Grinding Fundamentals
 Cylindrical Grinding Process Parameters
 Cylindrical Grinding Process Strategy
 - Fixturing Fundamentals for Machining Hole Process Fundamentals
 - Industrial Band Saw Blade Operation
 - Machine Tool Fundamentals Surface Process Fundamentals
- Turning Tool and Process Basics
- **Metal Forming** Cold Forming Fundamentals
 - Corrective Leveling Basics **Forging Basics** Forgings: Closed Die Processes
 Forgings: Closed Die Terminology and
 - Equipment Metal Forming Process Selection
 - **Roll Forming Basics**

Plating

Plating Fundamentals

Stamping Processes Stamping Terminology

Welding Fundamentals

Materials

- Aluminum Fundamentals: Castings
- Ceramic Basics
- Composite Basics Destructive Metallurgical Testing
- **Ductile Iron Fundamentals**
- **Gray Iron Fundamentals**
- Non-Destructive Testing
- **Polymer Basics**
- Polymer Fundamentals Powder Metallurgy Basics
- Steel Basics Steel Fundamentals
- **Steel Tubing Basics**
- Steel Tubing Production Wrought Aluminum Basics

Manufacturing Fundamentals

Engineering Drawings

- Engineering Drawings Fundamentals
 Engineering Drawings for Castings
 Engineering Drawings for Forgings
 Engineering Drawings for Hydraulics
 Engineering Drawings for Machining
- Engineering Drawings for Spur and Helical Gears
- **GD&T** Fundamentals

Manufacturing Excellence

- 5S Workplace Organization Method
- Contingency Planning Fundamentals
- Overall Equipment Effectiveness (OEE) Purchase Order Fundamentals
- **Takt Time**
- Value Analysis and Value Engineering (VAVE)

Quality

- 7QC Tools: Check Sheets
 7QC Tools: Control Charts
 7QC Tools: Fishbone Diagrams*
- 7QC Tools: Histograms
- 7QC Tools: Pareto Charts' 7QC Tools: Scatter Diagrams
- 7QC Tools: Stratification 8D Problem-Solving Basics

Advanced Product Quality Planning

- Affinity Diagrams Control Plan
- Coordinate Measuring Machine (CMM) Basics
- **GD&T Measurement Basics**
- Measurements: Basic Concepts
 Measurements: Measurement Math
 Measurements: Measuring Processes Measurements: Measuring Tools
- Process Failure Mode and Effects Analysis (PFMEA)
- Process Failure Mode and Effects Analysis
- (PFMEA) AIAG & VDA Production Part Approval Process (PPAP)
- Process Flow Diagrams Shop Math: Fractions Statistical Process Control (SPC) Basics
- **Industrial Safety** Horizontal Machine Center (HMC)
- Machine Safety
 Personal Protective Equipment (PPE) Selection
- Precision Grinding: Abrasive Wheel Safety Prevention Of Sexual Harassment (POSH)

PPE Scenarios for Forge Shops

- in the Workplace
- Safety: Lockout Tagout (LOTO) Industry 4.0
 - **Automation Basics**
 - Sensors: Measurement Concepts **Robotics Fundamentals**

Internet of Things: Manufacturing

* Also available in Tamil

Machining Video Series

Course List

Series 1

- Machining **Broaching Video Series**
 - Cylindrical Grinding Video Series 1 Gear Hobbing Video Series 1 Gear Hobbing Video Series 2
 - Honing Video Series 1 Honing Video Series 2 Horizontal Machining Center (HMC)
 - Video Series 1 Horizontal Machining Center (HMC) Video Series 2 Rotary Surface Grinding Video
 - Rotary Surface Grinding Video Series 2 Turning Center Video Series 1
 - Turning Center Video Series 2 Turning Center Video Series 3 Vertical Machining Center (VMC) Video Series 1

Vertical Machining Center (VMC)

Unique Benefits of our Video Series Courses

and do not know.

100% fully narrated, short, and engaging animated videos.

The learner has the option to first

be assessed on what they know

The lessons are comprised of

The learner is reassessed on their learning until the desired knowledge level is achieved.



Video Series 2

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