



# Foundry e-Learning from the AFS Institute

Designed by foundry curriculum experts, each skills-based AFS Institute e-Learning Module takes from 20 to 60 minutes to complete. Each module costs \$50 for members or \$100 for non-members. For a free demo, contact [Jen Christian](mailto:jchristian@afsinc.org) at [jchristian@afsinc.org](mailto:jchristian@afsinc.org).

To register for modules, visit [www.afsinc.org/e-learning](http://www.afsinc.org/e-learning) or fill out the form below checking off the modules you wish to purchase.

- 3D Sand Printing Benefits
- 3D Sand Printing Casting Design
- 3D Sand Printing Mold Quality
- 3D Sand Printing Process and Terminology
- Acid Demand Value (ADV) of Sand
- AFS 2 in. Dia. x 2 in. Specimen Preparation, Rammer Method
- AFS Clay
- AFS Permeability for Green Sand
- Aluminum Casting Alloys
- Aluminum Casting Applications
- Aluminum Casting Defects: Gas Porosity and Shrinkage Porosity
- Aluminum Casting Defects: Oxides and Inclusions
- Aluminum Casting Production
- Basic Melt Practices for Cast Iron
- Basics of Fluid Dynamics for Metalcasting Gating Systems
- Basics of Heat Transfer Principles for Riser Design
- Big Picture of the Casting Process
- Casting Defect Analysis Practice and Conclusion
- Casting Design for Castability
- Casting Material Properties
- Cast Iron Defects: Solidification Shrinkage in Ductile Cast Iron
- Cast Iron Defects: Solidification Shrinkage in Gray Cast Iron
- Chemical Binder Handling Safety Requirements
- Coldbox Coremaking Components
- Coldbox Coremaking Process
- Coldbox Core Quality and Casting Defects
- Coldbox Tooling Design Basics
- Compactability
- Compactación de Arena Verde
- Copper Casting Alloys
- Copper Casting Applications
- Copper Casting Defects: Gating
- Copper Casting Defects: Shrinkage
- Copper Casting Production
- Elements in Cast Iron
- Friability
- Functions and Features of a Rigging System
- Gas Related Defects
- Gating Design for 3D Printed Sand
- Green Sand Compaction
- Green Sand Molding Equipment
- Green Sand Molding Process
- Green Sand Preparation and Quality Control
- Green Sand Raw Materials
- Introduction to Casting Defect Analysis
- Introduction to Cast Iron
- Introduction to Cast Iron Heat Treatments
- Introduction to Cast Iron Melting
- Introduction to Cast Iron Microstructures
- Introduction to Green Sand Defects
- Introduction to Lean Manufacturing
- Introduction to Steel Heat Treatments
- Lean Manufacturing Application
- Lean Manufacturing Case Studies
- Lean Manufacturing Principles
- Loss on Ignition (LOI)
- Lost Foam Basics
- Lost Foam Design for Aluminum Castings
- Mechanics for Heat Treatment: Aluminum Practices
- Mechanics for Heat Treatment: Aluminum Processes
- Melting and Pouring
- Metalcasting Facility Safety
- Methylene Blue Clay Test
- Moisture Determination for Sand Testing
- Nobake Materials and Equipment
- Nobake Mold and Core Defects
- Nobake Molds and Core Process
- Oxide Related Defects
- Permanent Mold Casting Process
- pH of Sand
- Purchasing Castings: Create the Relationship
- Purchasing Castings: Grow the Relationship
- Purchasing Castings: Maintain the Relationship
- Rising Iron Castings
- Sand Related Defects
- Sand Sampling Methods
- Shrink Related Defects
- Sieve Analysis and Grain Fineness Number (AFS GFN)
- Six Families of Cast Iron
- Steel Casting Alloys
- Steel Casting Defects: Oxides and Inclusions
- Steel Casting Defects: Shrinkage
- Steel Casting Production
- Steel Casting Quality Requirements and Inspection Methods
- Tensile Strength for Chemically Bonded Sand
- Types of Alloys
- Types of Casting Processes
- Types of Casting Tooling
- Wet and Dry Compression Strength for Green Sand
- Wet Tensile Strength for Green Sand

### Spanish Modules

- Defectos en el Hierro Fundido: Contracción por Solidificación en Hierro Gris
- Defectos Relacionados con el Gas
- Defectos Relacionados con el Óxido
- Defectos Relacionados con la Arena
- Defectos Relacionados con la Contracción
- Elementos en el Hierro Fundido
- Equipo de Moldeo de Arena Verde
- Introducción a la Fusión de Hierro Fundido
- Introducción a la Microestructura del Hierro Fundido
- Introducción al Análisis de Defectos de Fundición
- Introducción al Hierro Fundido
- Introducción a los Defectos de la Arena Verde
- Introducción a los Tratamientos Térmicos de Fundición de Hierro
- Las Seis Familias de Hierro Fundido
- Materias Primas de Arena Verde
- Panorama General del Proceso de Fundición
- Práctica para el Análisis de Defectos en Piezas y Conclusión
- Prácticas Básicas de Fusión para Hierro
- Preparación de Arena Verde y Control de Calidad
- Proceso de Moldeo de Arena Verde

### Company Information:

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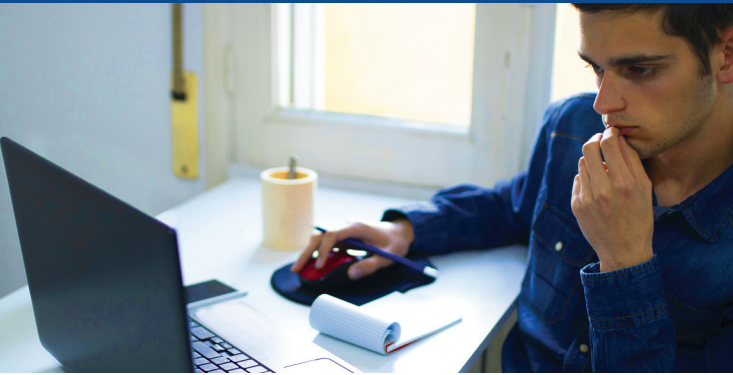
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# AFS e-Learning Subscription Program



**“The modules are a great way to supplement and fill in the gaps of in-house training practices. All of our new supervisors are given e-Learning assignments to complete during their training.”**

-Rocco Bara, Plant Manager, Victaulic

The **AFS Institute** offers **more than 100 on demand e-Learning modules** ranging in length from 20 to 60 minutes, viewable on any device or browser. **e-Learning modules** focus on practical job skills you can use immediately. Each module is based on adult education best practices and strives to engage you throughout. With the **AFS e-Learning Subscription Program** gain access to our full suite of e-Learning modules for all your employees at one location. The annual subscription fee is based on the number of employees in your facility:

**\$1,200 up to 100 employees | \$2,400 up to 250 employees | \$4,800 over 250 employees**

For a free demo, contact **Jen Christian** at [jchristian@afsinc.org](mailto:jchristian@afsinc.org).

## e-Learning Categories Include:

- 3D Sand Printing
- Aluminum
- Basics of Metalcasting \*
- Casting Defect Analysis
- Cast Iron
- Coldbox
- Copper
- Gating and Riser Design
- Green Sand Molding \*
- Lean Manufacturing
- Lost Foam
- Mechanics for Heat Treatment
- Metalcasting Safety
- Permanent Mold
- Nobake Molding & Coremaking
- Sand Testing
- Steel

\* Available in Spanish

## e-Learning Subscription Application

### Program Fees

- \$1,200 Corporate Members with up to 100 employees (per plant)
- \$2,400 Corporate Members with up to 250 employees (per plant)
- \$4,800 Corporate Members with more than 250 employees (per plant)

### Program Requirements

- Corporate membership must be kept current during 12 month subscription period.
- Training administrator must be designated.
- No refunds or proration of funds once access is established for training administrator.
- A separate subscription and application form is required for each plant.

### Optional and tax deductible:

Donate to the AFS Institute and its mission to educate the metalcasting industry.  \$20  \$40  Other Amount \$ \_\_\_\_\_

Form below is only for the **e-Learning Subscription Program**.

For **e-Learning Module Individual Access** please visit [www.afsinc.org/e-learning](http://www.afsinc.org/e-learning) or fill out the form on the other side of this ad.

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