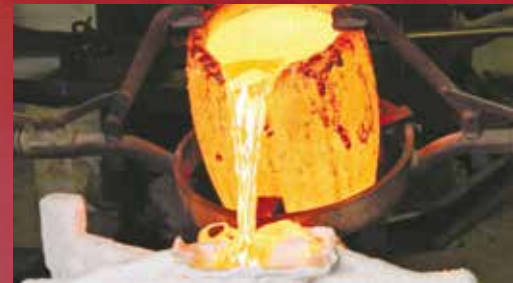


AFS Institute

Your Education Solution for Metalcasters, Suppliers & Casting Buyers

More Courses, More Opportunities

- Aluminum Melting 201
- Casting Cost Estimating
- Casting Defect Analysis
- Copper 101
- Copper Metallurgy 201
- Gating & Riser Design 101
- Green Sand 101
- Introduction to Metalcasting
- Nobake Molding & Coremaking
- Steel 101



ADVOCATE. EDUCATE. INNOVATE.

www.afsinc.org • 800/537-4237

Our courses have been designed to follow the best practices in adult learning, providing opportunities for entry level knowledge and skills and building up to advanced technology and applications. Incorporated with your company's training program, this program of courses will provide a foundation of education for improved job performance and better company engagement.

2015-2016 Education Calendar

February

Feb 2-3	Casting Supplier Auditing	South Pittsburg, TN
Feb 2	Coldbox Process 101	Schaumburg, IL
Feb 3-4	Casting Defect Analysis	Schaumburg, IL
Feb 3-5	AFS Labor Relations & Human Resources Conference	Ft. Lauderdale, FL
Feb 10	Identifying the Correct Casting Defect	Milwaukee, WI
Feb 10	Introduction to Alloys	Milwaukee, WI
Feb 10	Introduction to Coreless Induction Furnace Operation	Milwaukee, WI
Feb 24-25	Iron Melting 201	Schaumburg, IL
Feb 24-25	AFS Advanced Foundry Air Seminar	Atlanta, GA

March

Mar 2-3	Introduction to Metalcasting	Schaumburg, IL
Mar 9-10	Casting Design	Schaumburg, IL
Mar 17-18	Copper Melting 201	Cedar Falls, IA
Mar 30-31	Green Sand Molding 201	Schaumburg, IL

April

Apr 16-19	CastExpo'16 & Metalcasting Congress	Minneapolis, MN
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May

May 3	Aluminum 101	Kalamazoo, MI
May 4-5	Aluminum Melting 201	Kalamazoo, MI
May 10-11	Nobake Molding & Coremaking 201	Cedar Falls, IA
May 12	Chemically Bonded Sand Testing	Cedar Falls, IA
May 17-19	Hands-On Introduction to Metalcasting	Pittsburg, KS
May 18-19	Government Affairs Conference	Washington, D.C.
May 24-26	Cupola Melting Workshop	Tell City, IN

June

June 7	Copper 101	Schaumburg, IL
June 8-9	Copper Metallurgy 201	Schaumburg, IL
June 14-15	Casting Defect Analysis	Schaumburg, IL
June 16	Green Sand 101	Schaumburg, IL
June 21-22	Gating & Riser Design 101	Schaumburg, IL
June 23	Steel 101	Schaumburg, IL
June 28-29	Casting Cost Estimating	Schaumburg, IL

Classroom Courses

Casting Supplier Auditing #19-16

February 2-3 / South Pittsburg, TN / Member: \$1025 / Non-member: \$1225



This course will review the methods supply chain personnel must utilize to effectively perform audits of metalcasting facilities. Topics covered will include: an overview of the audit process, determining audit requirements, developing and preparing to perform an audit, and closing the audit loop. Held at a casting supplier [Lodge Mfg.] participants will spend the better part of the second class day auditing several different areas of the foundry as part of this interactive and hands-on course. In addition, the course registration fee includes a networking dinner February 2nd. This course is only open to employees from companies who design and/or purchase metal castings. Class size is limited to 20 participants.

Who Should Attend

The target audience for this course consists of individuals responsible for purchasing from foundries, maintaining quality control, and supplier development.

Instructor

Nick Fox,
Galesburg Castings



Course Information: The course will begin at 8:00 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Coldbox Process 101 #20-16

February 2 / Schaumburg, IL / Member \$725 / Non-member \$925

Coldbox Process 101 is an introduction to the coldbox coremaking process used within a foundry. Discussion will include:

- Terminology.
- Common sands and binder systems.
- The core making process.
- Using and maintaining equipment.
- Considerations for identifying core defects.

Instructor

Doug DeSmit,
ASK Chemicals



Who Should Attend

The target audience for this course consists of coldbox core makers, foundry foremen or lead persons, sand lab technicians, maintenance personnel, general labor/helpers, new process engineers, and quality technicians.



Course Information: The course will begin at 8:00 a.m. and end by 4:00 p.m. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Casting Defect Analysis #21-16, 34-16

February 3-4 / Schaumburg, IL / Member: \$925 / Non-member: \$1125

June 14-15 / Schaumburg, IL / Member: \$925 / Non-member: \$1125

CHOOSE FROM
TWO DATES,
TWO LOCATIONS

In order to determine the true root cause of a casting defect and select the proper corrective action, a systematic evaluation method must be applied. The intention of this course is for participants to become proficient in applying a ten-step procedure that will enable them to analyze and reduce metalcasting defects by correctly identifying defects and their root causes, and determining appropriate corrective actions. This course is most applicable to sand molding processes (green, nobake, coldbox, shell).

Instructors

Kevin Fleischmann,
AFS and the Institute

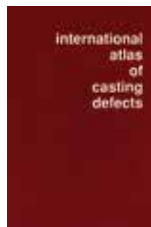
Scott Lammers,
AFS and the Institute

Who Should Attend

The target audience for this course consists of individuals responsible for managing and overseeing the production, purchasing, sales, marketing or office operations, auditing/inspecting/quality control, engineering, and design.

\$135 Value

Two complimentary books
with course registration



Casting defects handbook

Choose From Iron &
Steel, Copper-Base or
Aluminum Alloys

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Iron Melting 201 #22-16

February 24-25 / Schaumburg, IL / Member \$925 / Non-member \$1125



This course provides a detailed coverage of iron melting and related processes. Topics include:

- Charge materials selection.
- The understanding of cost, value, and risk.
- Information covering electric and cupola melting procedures.
- The relationship between molten metal and refractory lining.
- Sampling and checks to determine iron quality.
- Common effects of key major element adjustments.
- Iron refining technology/treatment practices.
- Safety procedures.

Who Should Attend

The target audience for this course consists of individuals responsible for process control; product quality, melting, shop floor operations, casting sales, and foundry suppliers.

Instructors

Gene Ritchie,
Melt Consultant

Dave Williams,
ASi International



Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Classroom Courses

Introduction to Metalcasting #23-16

March 2-3 / Schaumburg, IL / Member \$925 / Non-member \$1125



This course introduces the process of metalcasting. It provides a broad picture of what happens in a casting production facility, while illustrating the technology, variables and complexity involved in producing a casting. It covers casting design, alloy selection, process selection, design of the gating system, pouring and shakeout methods, cleaning and finishing methods, quality assurance, and key safety and environmental regulations.

Who Should Attend

The target audience for this course consists of individuals responsible for foundry production, management, office and administration, buying from casting suppliers, designing/engineering cast components, production and/or sales of supplies and services to the industry.

Instructors

Kevin Fleischmann, *AFS and the Institute*
Leo Baran, *AFS and the Institute*
Scott Lammers, *AFS and the Institute*
Al Spada, *AFS and the Institute*
Steve Robison, *AFS and the Institute*

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Casting Design #24-16

March 9-10 / Schaumburg, IL / Member: \$925 / Non-member: \$1125

This course addresses principles of effective metalcasting design by delving into the major factors that affect final part design. Participants will explore alloy selection, metalcasting process capabilities and limitations and their effects on casting design, and the impact of secondary operations. Discussion and case studies will be used throughout this two-day course to illustrate effective and practical casting design principles. Participants should have knowledge and experience in designing engineered components prior to attending this course. Other major topics will include:

- Design for manufacturability.
- Dimensional control.
- Fab to casting design conversions.
- Importance of casting simulation.



Instructors

Vadim Pikhovich,
Magma Foundry Technologies



Jack Travis,
JET Technologies

Who Should Attend

The target audience for this course consists of individuals responsible for buying from casting suppliers, designing/engineering cast components, and quality assurance.

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Copper Melting 201 #25-16

March 17-18 / Cedar Falls, IA / Member \$1075 / Non-member \$1275

This laboratory course, being held at the University of Northern Iowa, introduces the principles and best practices for copper melting and pouring for use in producing premium quality castings. This course will examine the various processes involved in melt protection, oxidation, de-oxidation, and degassing. Topics include:

- Furnace types and uses.
- Melting practices.
- Charge materials.
- Tests for melt quality



Instructors

Leigh Omer,
H Kramer & Co

H. KRAMER & CO.



Mahi Sahoo,
Suraja Consulting

Who Should Attend

The target audience for this course consists of individuals responsible for melting, metallurgy, quality and/or process control, and management/supervision.

Course Information: This course will be held on the campus of University of Northern Iowa in Cedar Falls, IA. The course will begin at 8:30 a.m. on the first day and end by noon on the second day.

Green Sand Molding 201 #26-16

March 30-31 / Schaumburg, IL / Member \$925 / Non-member \$1125



This second course in the green sand molding series provides participants with the next level of knowledge related green sand molding. The first day will focus on an introduction to applications requiring specialty sands, types of sand additives and their effects, equipment, sand handling and storage, sand reclamation and re-use, green sand process variables, and methods to ensure a quality mold is made. The second day will address green sand quality control tests for ferrous and non-ferrous alloys, reviewing the types, purpose, frequency, and typical result ranges for each, and finish with an introduction to statistical process control for sand systems.

Who Should Attend

The target audience for this course consists of individuals in the following positions: green sand molder/mold operator, foundry foreman/supervisors or lead persons, sand lab technicians, sand lab supervisors, maintenance personnel, foundry engineers, and foundry sales personnel.

Instructors

Ed Marczyszak,
Burndy Foundry

Jerry Thiel,
*University of
Northern Iowa*



Course Information: The course will begin at 8:30 a.m. on the first day and end by noon on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Aluminum 101: An Introduction to Aluminum & Aluminum Casting Processes #27-16

May 3 / Kalamazoo, MI / Member: \$800 / Non-member: \$1000



Held at Western Michigan University, this intro course covers the characteristics and properties of aluminum, alloying elements and their general applications and considerations for working with aluminum cast parts. This course also covers technology and casting technology and looks at the decision making process behind specific technologies used.

Who Should Attend

The target audience for this course consists of individuals responsible for management—all levels, production engineers, production personnel new to working with aluminum, technical sales staff, purchasing staff, and design engineers.

Instructor

Dave Neff, *Retired-Pyrotek*

Course Information: The course will begin at 8:00 a.m. and end by 4:00 p.m. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Aluminum Melting 201 #28-16

May 4-5 / Kalamazoo, MI / Member: \$1075 / Non-member: \$1275

This 2-day laboratory course, held at Western Michigan University, introduces the basic principles and practices of aluminum melting. The course will examine furnace charging, furnace temperature and its effect on the melt, and in-furnace treatments to reduce impurities. Melt sampling, transfer and pouring methods and the corresponding equipment will be analyzed, with laboratory demonstration and practice of various techniques throughout the course.



Instructor

Dave Neff, *Retired-Pyrotek*

Who Should Attend

The target audience for this course consists of individuals responsible for furnace tending, mold pouring, and new personnel or individuals with little experience in aluminum melting practices.

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Nobake Molding & Coremaking 201 #29-16

May 10-11 / Cedar Falls, IA / Member: \$1075 / Non-member: \$1275

This 2-day laboratory course, held at the University of Northern Iowa, is the second course in the nobake series, providing participants with the next level of knowledge related to the nobake molding and coremaking processes used within a foundry through discussion and hands-on laboratory activities. Some of the topics taught include:

- Specialty sands.
- Sand variables and sand additives.
- The types of chemical binders used to make nobake molds and cores.
- How to determine the correct sand and binder for the application.
- The use of refractory coatings, adhesives, and release agents.
- How to evaluate problem areas with raw materials, binders and equipment.
- How to make adjustments to ensure a quality mold.

Instructor

Tom Cobett,
T. Cobett & Associates

Who Should Attend

The target audience for this course consists of individuals responsible for making molds and cores using nobake/air set molding process, recognizing complex sand casting defects, monitoring/supervising employees responsible for making nobake molds and cores, modifying molding and coremaking processes to correct casting deficiencies, and quality assurance.

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Chemically Bonded Sand Testing #30-16

May 12 / Cedar Falls, IA / Member: \$925 / Non-member: \$1125



This 1-day laboratory course, held at the campus of University of Northern Iowa, provides detailed instruction on the need for widely used chemically bonded sand tests, including proper sand sampling methods, from the *Mold & Core Test Handbook*. The student will be able to identify typical operating ranges for test values.

Who Should Attend

The target audience for this course consists of individuals performing sand lab tests, managing sand labs, and troubleshooting chemically bonded mold and core defects.

Instructor

Tom Cobett, *T. Cobett & Associates*

Course Information: The course will begin at 8:00 a.m. and end by 4:00 p.m. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Hands-On Introduction to Metalcasting #31-16

May 17-19 / Pittsburg, KS / Member: \$1300 / Non-member: \$1500

This 3-day laboratory course, held at Pittsburg State University, introduces the process of metalcasting. It provides a broad picture of what happens in a casting production facility, while illustrating the technology, variables and complexity involved in producing a casting. Students will participate in the making of several castings and participate in laboratory demonstrations throughout the course. This course covers:

- Casting design.
- Alloy selection.
- Process selection.
- Design of the gating system.
- Pouring and shakeout methods.
- Cleaning and finishing methods.
- Quality assurance.
- Key safety and environmental regulations.



Instructor

Kevin Fleischmann, *AFS and the Institute*

Who Should Attend

The target audience for this course consists of individuals responsible for foundry production, management, office and administration, buying from casting suppliers, designing/engineering cast components, and production and/or sales of supplies and services to the industry.

Course Information: The course will begin at 8:30 a.m. each day and end by 3:00 p.m. on the third day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Copper 101 #32-16

June 7 / Schaumburg, IL / Member: \$725 / Non-member: \$925

This course introduces participants to the characteristics and properties of copper, alloying elements and their general applications, and considerations for working with copper cast parts. This course also covers melting and casting technology and looks at the decision making process behind specific technologies used.

Benefits to taking this course include practical and theoretical knowledge for those entering into or establishing relationships with others in the copper casting business. It provides a comprehensive foundation of the processes, treatments and practical applications of cast copper, and walks the participant through decisions that affect final product cost.



Instructor

Kumar Sadayappan, *Canmet MATERIALS*



Who Should Attend

The target audience for this course includes management—all levels, production engineers, production personnel new to working with copper, technical sales staff, purchasing staff, and design engineers.

Course Information: The course will begin at 8:00 a.m. and end by 4:00 p.m. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Copper Metallurgy 201 #33-16

June 8-9 / Schaumburg, IL / Member: \$925 / Non-member: \$1125



Knowledge of physical metallurgy of copper alloys is necessary for the foundry metallurgists to effectively operate. This knowledge includes melt treatment, effects of alloy additions on physical and mechanical properties, solidification, heat treatment and final properties. The correlations between the processing technology, the defects and properties, as well as environmental issues are important topics for the foundry metallurgist. Copper Metallurgy 201 will address these issues to improve the metallurgical skills of the casting personnel.

Who Should Attend

The target audience for this course consists of individuals responsible for developing best practice melt and metallurgical process control, complex casting design, alloy research, chemical analysis, and quality control.

Instructor

Kumar Sadayappan,
Canmet MATERIALS



Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Classroom Courses

Green Sand 101 #35-16

June 16 / Schaumburg, IL / Member: \$725 / Non-member: \$925



This course is an introduction to the green sand molding process used within a metalcasting facility. Participants will leave the course with a basic foundation of the green sand molding process and techniques used in established facilities. Discussion will include:

- Terminology.
- Types of sands used.
- The mold making process.
- Using and maintaining equipment.
- Considerations for preventing casting defects during the mold making process.

Who Should Attend

The target audience for this course consists of individuals responsible for green sand molding, foundry foreman or lead persons, sand lab technicians, maintenance personnel, and new employees or anyone new to the green sand molding process.

Instructor

Kevin Fleischmann, *AFS and the Institute*

Course Information: The course will begin at 8:00 a.m. and end by 4:00 p.m. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Gating & Riser Design 101 #36-16

June 21-22 / Schaumburg, IL / Member: \$925 / Non-member: \$1125

Casting quality and yield are directly impacted by gating design. This course guides participants through the basic functions of gating and risers to provide clean, sound and functional castings. An introduction to fluid flow and solidification will serve to guide participants through key design concepts of various elements of a good gating and riser design. Emphasis will be placed on hands-on activities, animations, and simulations to enhance understanding of the filling and solidification processes in a foundry. Focus will be on practical examples in iron, steel, aluminum, and copper castings. The goal will be to introduce the participants the basics of gating and riser design, common industry norms and troubleshooting.



Instructors

Dr. Sudesh Kannan, *Consultant*
Shelly Dutler, *AFS and the Institute*

Who Should Attend

The target audience for this course consists of individuals responsible for developing tooling for castings produced with gravity pouring processes, improving casting quality issues related to the tooling, improving yield and production costs related to tooling design.

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Steel 101 #37-16

June 23 / Schaumburg, IL / Member: \$725 / Non-member: \$925

This course provides participants an introduction covering the characteristics and properties of steel, alloying elements and grades of steel, heat treatment, quality control, and considerations for working with steel cast parts. This course also covers melting technology and casting technology.



Instructors

Jerrold Miller, *Spokane Industries*

Shelly Dutler, *AFS and the Institute*

Who Should Attend

The target audience for this course consists includes management—all levels, production engineers, quality assurance, process control, technical sales staff, purchasing staff, and design engineers.

Course Information: The course will begin at 8:00 a.m. and end by 4:00 p.m. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Casting Cost Estimating #38-16

June 28-29 / Schaumburg, IL / Member: \$925 / Non-member: \$1125



Cost estimating is a critical factor in ensuring a manufacturing company continues to acquire customers and be profitable. This course examines the various cost components and methods used to arrive at an accurate estimate of the casting production costs. It also provides information on common traps in casting estimates and measures that can be used to avoid them.

Instructor

Ron Thomas, *B & L Information Systems Inc.*

Who Should Attend

The target audience for this course consists of individuals responsible for: administration/management, casting buyer/designer, cost estimating, finance/accounting, industrial engineering, procurement, and sales/marketing.

Course Information: The course will begin at 8:30 a.m. on the first day and end by 3:30 p.m. on the second day. Detailed travel information, including available hotel room blocks, will be provided in a confirmation letter e-mailed within one business day of registration.

Special Event

Institute Courses During Wisconsin Regional

Three new short-format courses will be available to the attendees of the Wisconsin Regional, February 10, 2016. These courses are repeated both morning and afternoon providing the opportunity to take two different classes in the same day!

Price \$350 for one session / \$650 for two sessions (\$50 discount)
Morning session: 8:00 a.m.-11:30 a.m. / Afternoon session: 12:15 p.m.-3:45 p.m.

**CHOICE
#1**



Identifying the Correct Casting Defect

Provides participants with a basic overview of the casting defect analysis procedure. Topics include an introduction to the ten-step method for casting defect identification, writing a good problem statement, the importance of recording process parameters, an introduction to navigating the International Atlas of Casting Defects, and a path to identifying the right defect and its root cause for corrective action.

Introduction to Alloys

Provides participants introductory information covering the major alloy families. Topics include characteristics and properties (mechanical and physical), as well as general applications for each alloy type.



**CHOICE
#2**

**CHOICE
#3**



Introduction to Coreless Induction Furnace Operation

Provides participants with best practices for safe operating techniques for induction melting. Topics include furnace components, the sequence of operations for daily start up, "normal" furnace operation, types of induction furnaces, differences between small verses large induction furnaces, and emergency situations and action plans.

Conferences

AFS Labor Relations & Human Resources Conference

Feb. 3-5, 2016 / Ft. Lauderdale, FL

AFS Member: \$795 / Spouse: \$400 / Reception Only: \$150 / Non-member: \$950

The 2016 Labor Relations & Human Resource Conference will be held at the beautiful Hyatt Regency Pier 66 in Ft. Lauderdale. The conference will include the annual union/non-union breakout sessions, giving participants the opportunity to discuss matters of importance with their peers. This is always a highlight of the conference.

This year's lineup of presentations will include:

- Legal advice on remaining union free.
- Discussion on the NLRB's persistent focus on Employee Handbooks, which may be prohibiting employees' rights to engage in "concerted activity." It may be time to have your handbook reviewed and updated.
- How to create a world class safety culture in your organization.
- Plus more . . .

**Do HR Policies
and Regulations
Have You
in Knots?**

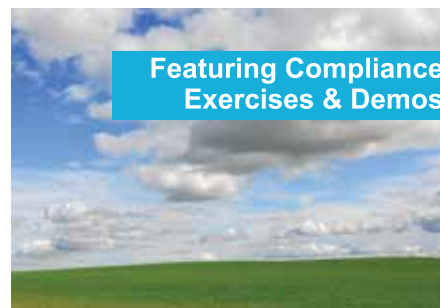


AFS Advanced Foundry Air Seminar

Feb. 24-25, 2016 / Atlanta, GA / Member: \$625 / Non-member: \$795

This seminar is for individuals with a basic knowledge and understanding of EPA air regulations and air emission calculations. It will build on this knowledge with advanced practical information, tools and techniques needed to address complex air issues in metalcasting facilities.

Topics include: emission estimation, permitting, regulatory requirements and compliance demonstration. For each topic, classroom instruction will be followed by a working group session where groups will complete a hypothetical air emission problem.



CastExpo'16 & Metalcasting Congress

April 16-19, 2016 / Minneapolis, MN / Pricing: Visit www.castexpo.com



CastExpo is the single largest trade show and exposition for metalcasting in the Americas. CastExpo offers metalcasters, suppliers, and casting buyers and designers the opportunity to connect and educate themselves on the latest and greatest metalcasting has to offer. Attendees will experience more than 400 exhibitors over four days, thought-provoking sessions on how to improve operations, efficiency and quality. In addition, keynotes from world-renowned experts will be highlighted throughout the four-day event.

2015 Government Affairs Conference

May 18-19, 2016 / Washington, D.C. / Pricing: TBD

Join your fellow metalcasters for the industry's annual Government Affairs Conference and "lobby day" in Washington, D.C. Your active participation is vital to educate our elected officials on issues of importance to our industry.

The Government Affairs Conference provides you the opportunity to engage with your member of Congress, administration officials and policy experts to speak up on key industry issues. Mark your calendars for May 8-19, 2016 and be the voice of the foundry industry!



Practical Cupola Seminar

May 24-25, 2016 / Tell City / Member: \$395 / Non-member: \$595



This two-day seminar is for metalcasting facility engineers and managers, metallurgists, metallurgical technicians, supervisors, cupola operators, melting foremen and trainees with an emphasis on fundamental principles of cupola melting and combustion in terms of airflow, temperature, chemistry and melt rate.

Topics include: basic cupola theory, cupola design variations, coke combustion, charge makeup, slag chemistry, fluxing and slag rates, inspecting and removing old refractory, well repair, start up checklist, tools, safety equipment, bed coke selection, chemistry control, record keeping and more.

Internet Courses

AFS Institute Micro E-Learning Courses

The AFS Institute is developing a suite of micro e-learning courses, ranging from 15 minutes to 1 hour in length, and transitioning to a new Learning Management System (LMS) for all its internet courses. The new LMS allows courses to be viewable on any device or browser.

The new micro courses will be focused on practical application and incorporate text, audio narration, images, videos, activities/games/simulations and assessments. Ten to 15 of these new micro e-learning courses will be available summer 2016.

During the transition to the new LMS, our on-demand, self-paced internet courses will not be available. Please check back for updates as the e-learning development project progresses. To be advised when the new e-learning courses are available please contact Celeste Smith at csmith@afsinc.org.



Save Time and Money With In-plant Training

*Leave the
traveling to us.*

Every dollar you invest in employee training should provide the largest possible return on investment. AFS and the Institute offer in-plant training as a solution to provide you with just that. Benefits include:

- Cost effective training for all of your employees.
- Customized course content.
- Personalized advice from the technical experts teaching our courses.
- Less time away from work.

Contact Kevin Fleischmann, kevinf@afsinc.org.



Registration Form

Cast Metals Institute

1695 N. Penny Lane, Schaumburg, IL 60173-4555



All fees payable in U.S. dollars or equivalent.

Remit payment to: 35169 Eagle Way, Chicago, IL 60678-1351

☐ Check Enclosed

For Credit Cards:

To register toll free, call 800-537-4237 or 847-824-0181. FAX: 847-824-2174

The following information is required in order to charge

☐ American Express ☐ MasterCard ☐ VISA

Account Number _____ Exp. Date _____

Authorized Signature _____

Qty.	Reg #	Title	Price
Total			

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

Company _____

Address _____

City/State/Zip _____

Telephone _____ FAX/Email _____

Tax Deduction of Expenses An income tax deduction is allowed for expenses of education (including registration fee, travel, meals and lodging) undertaken to maintain and improve professional skills. (See U.S. Treas. Regulation 1.162.5.)

Cancellations and Substitutions Substitute students will be accepted anytime. However, cancellations of confirmed registrants with full refund of course fees cannot be accepted unless received 15 days prior to course date. *In the unlikely event a course is cancelled for any reason, the Institute liability is limited to the return of the registration fee.*