## ton ACerS Learning Center

### **Characterization of Refractory Microstructures: Course Outline**

#### **Course Description**

Participants will be introduced to processing-microstructure-property relationships for common refractory compositions. Optical and scanning electron microscopy characterization techniques will also be introduced.

#### Who Will Benefit From This Course

Engineers, managers, contractors, purchasing agents, furnace operators, maintenance supervisors, and technicians who are involved in the manufacturing, marketing, research and development, or consumption of refractory materials will find this course beneficial. A high level technical or engineering background is not essential to take this course, although technical professionals will find the subject matter informative and useful.

Class Dates	Topics / Activities During Class
Lecture 1	Processing Microstructure Relationships
Lecture 2	Sintering And Grain Growth
Lecture 3	Property Microstructure Relationships
Lecture 4	Property Microstructure Relationships
Lecture 5	Sample Preparation / Optical Microscopy
Lecture 6	Scanning Electron Microscopy
Lecture 7	Silica Refractories
Lecture 8	Alumina-Silica Refractories
Lecture 9	Alumina-Silica Refractories
Lecture 10	Basic Refractories
Lecture 11	Basic Refractories
Lecture 12	Zircon And Zirconia Refractories
Lecture 13	Fused Cast Refractories

# Orton ACerS Learning Center

Lecture 14	Non-Oxide Refractories
Lecture 15	Composite Refractories
Lecture 16	Monolithic Refractories
Lecture 17	Monolithic Refractories / Insulation Refractories

The Americar