

# Ceramic Manufacturing Technology course outline

## Module I

- Lesson 1: Course Introduction
- Lesson 2: Review of Ceramic Products
- Lesson 3: Ceramic Raw Materials
- Lesson 4: Typical Ceramic Compositions

## Module II: Mainline Manufacturing Technology

- Lesson 5: Raw Material Preparation
- Lesson 6: Batching of Ceramic Compositions
- Lesson 7: Body Preparation
- Lesson 8: Mainline Forming Processes
- Lesson 9: Drying Technology
- Lesson 10: The Ceramic Firing Process
- Lesson 11: Ceramic Kilns
- Lesson 12: Important Properties of Glass
- Lesson 13: Glass Manufacturing Technology
- Lesson 14: Glaze Technology
- Lesson 15: Ceramic Finishing

## Module III: Special Manufacturing Technology

- Lesson 16: Introduction to Special Processes
- Lesson 17: Injection Molding
- Lesson 18: Additive Manufacturing
- Lesson 19: Vapor and Plasma Deposition
- Lesson 20: Gel and Sol-gel Processing
- Lesson 21: Isostatic Hot Pressing
- Lesson 22: Nanotechnology and Reactive Sintering
- Lesson 23: Processing from the Melt Phase

## Module IV: Ceramic Manufacturing Control

- Lesson 24: Measurement of Properties
- Lesson 25: Statistical Process Control

## Module V: The Ceramic Manufacturing Environment

- Lesson 26: Maintenance
- Lesson 27: Health and Safety
- Lesson 28: Environmental Issues
- Lesson 29: The Global Marketplace
- Lesson 30: Automation and Artificial Intelligence

