Fractography of Ceramics and Glasses: An Introduction: Course Outline

Fractography is a vital tool for identifying the causes and mechanisms of fracture in ceramics and glasses. It serves as a critical link between processing methods and mechanical testing results in research and development, and it plays a central role in the design and reliability evaluation of these inherently brittle materials.

This course provides a foundational introduction to fractography, covering key concepts such as common fracture surface features, typical fracture origins, and the tools and techniques used in fractographic analysis. Participants will also explore the application of fracture mechanics, principles of quantitative fractography, and how fractographic data contributes to Weibull analysis.

No prior experience or background in fractography is required. Please note that, due to the course format, while participants will engage in a limited amount of hands-on examinations of fracture features, microscopes will not be used.

Chapter	Topics / Activities During Class
1)	Introduction: What is Fractography? Why is it important?
2)	Equipment and tools
3)	General examination process and fracture patterns
4)	Examining the fracture surface: tell-tale features
5)	Common fracture origins in ceramics and glasses
6)	The role of fracture mechanics in fractography
7)	Quantitative fractography
8)	Weibull analysis and strength-size scaling