



Principles of Failure Analysis



What You'll Learn:

- Understand general procedures, techniques and precautions in failure analysis
- Learn how to identify design-related failures
- Be able to analyze the factors that cause failure
- Understand what environmental sources are responsible for failures and ways to prevent them
- Learn how stress systems relate to fracture of ductile and brittle materials
- Learn about typical fatigue characteristics
- Understand the basic fracture modes and their characteristics

Who Should Enroll:

- Anyone who needs a working understanding of failure analysis
- Technical, laboratory, and sales personnel
- Engineers from other disciplines
- Management, administrative and other non-technical support staff

Class Details:

- Duration: 4/17/12 – 6/5/12 , once per week on Tuesdays
- Time: 4:30 – 6:30pm (CST)
- Location: East Peoria, MM2 Large Conference Room
- Cost: \$500 (Participant is responsible for fee)
- CEU's: 3.2
- WebEx: Available

To Sign Up:

- Go to the Peoria Chapter ASM-AFS Website
 - <https://www.asm-afs-peoria.org/register.asp>
 - Title: "ASM MEI Principles of Failure Analysis (Spring 2012)"
- Register for the class (Note payment of \$500 is required upon registration)
 - Retain confirmation number in case changes to registration are needed
 - Retain receipt for work group reimbursement (if applicable)
- If paying by cash or check, send payment to Emily Merrick.
 - *Interoffice Mail:*
 - Facility Code - 40
 - Mail Drop Code – MOS410
 - Dept. – Advanced Materials Technology Met Lab

Check Payable to:
Peoria Chapter of ASM

More Info:

- For more information, contact:
 - **Emily Merrick** – ASM/MEI Co-Chair
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 - **Laura Ligeski** – ASM/MEI Co-Chair
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Sign Up Deadline: April 10, 2012



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Course Overview:

- Profit from failure analysis techniques
- Understand general failure analysis procedures
- Learn fundamental sources of failures
- This course is designed to bridge the gap between theory and practice of failure analysis
- This course presents a very practical approach to failure analysis for the non-metallurgist as well as for those who are new to the field or those who want an update. It is also designed for technicians and those interested in understanding how knowledge of failure analysis can lead to better productivity
- A comprehensive overview of the field, this course covers three principal areas of interest: Procedures for Analysis, Failure Mechanisms and Failure in Product Forms and Components. Causes of failures are explained with easy-to-understand diagrams of stress application and distribution. Many case histories of failures and their elimination are highlighted throughout the course.

Course Outline:

1. General Procedures for Failure Analysis
2. Types of Failure and Stress
3. Ductile Fracture
4. Brittle Fracture
5. Fatigue Failures
6. Wear Failures
7. Corrosion Failures
8. Elevated Temperature Failures

Sign Up Deadline:
April 10, 2012