



**A PROFESSIONAL DEVELOPMENT COURSE
OFFERED BY THE ASM AKRON CHAPTER**

PRESSURE VESSELS: DESIGN, MATERIALS, RISK MANAGEMENT

Course Dates: Saturdays, February 11, 18 and 25, 2012 9:00 a.m. to 1:00 p.m.

Location: University of Akron Campus. Classroom TBA

Please respond by: **January 11, 2012**

Details and fees on accompanying form.

For further information contact: Dr. Robert M. Shemenski, FASM,
330-705-2563 or bob_ski@mindspring.com

Course Description:

This course focuses on parameters that lead to design of an economical and safe pressure vessel. The interaction of important factors, such as stress, loading, materials selection and properties, and environmental degradation, will be developed. Analyses of pressure vessel failures will illustrate modes of failure and corrective measures that should be employed. Incorporation of Risk management and mitigation will show the importance of initial and life cycle costs.

Day 1:

Introduction to the course by Dr. Robert M. Shemenski, FASM

Design Philosophy

Stress Analysis

Materials: ferrous and non-ferrous

Mechanical Properties and Heat Treatment

Day 2:

Fracture Mechanics

Fatigue and Life Prediction

Corrosion Engineering (Part I)

Corrosion Engineering (Part II)

Day 3:

Boiler Corrosion

Failure Analysis

Risk Management - FMEA

Summary and Future Considerations

Course Instructors:

Dr. Robert M. Shemenski, FASM. Dr. Shemenski graduated with a MetE Degree in Metallurgical Engineering from the University of Cincinnati and a PhD in Metallurgical Engineering from The Ohio State University, majoring in corrosion science and engineering. He is also an Adjunct Professor in the Mechanical Engineering Department at the University of Akron. Dr. Shemenski is the president of RMS Consulting.

Dr. Amit Prakash, FASM. Dr. Prakash holds a Ph.D. in Metallurgical Engineering from the University of Cincinnati. He is an Adjunct Professor in the Mechanical Engineering Department of the University of Akron. He is the president of WireTough Cylinders, LLC.

Brian Deeken. Mr. Deeken attended Youngstown State University (B.E. in 1997), and the University of Akron. As a Lead Materials & Process Engineer for Goodrich Landing Gear he worked in heat treating, plating and painting process support roles. He is currently with WireTough Cylinders, LLC.