

Basics of Magnetism A Two Day Course

Target audience: Engineers, Technicians and Management personnel who work with permanent magnets and would like to learn more about these materials: how they are produced, characterized and used.

Format: Interactive lecture with demonstrations

Generic Course Outline

1. Overview
2. Magnetic Theory
 - a. Hysteresis
 - b. What is magnetism?
 - c. Units and conversions
3. Electromagnetism
 - a. Field from a current
 - b. Coils
 - c. Applications
4. Magnetic materials
 - a. Ferro-, ferri- and para-magnetism
 - b. Soft materials
 - c. Hard materials
 - d. Processing
 - e. Self-demagnetization
 - f. Thermal effects
 - g. Corrosion
5. Magnetic circuit design
 - a. Philosophy
 - b. Design principles
 - c. Permeance & load line
 - d. Analytical methods
 - e. Finite Element Analysis
6. Magnetic Testing
 - a. Magnetizing
 - b. Measurement techniques
7. Magnet Specification
8. New materials
9. Conclusions
 - a. Bibliography
 - b. Final questions

I have used this outline with many training classes. Each client has varying needs and we modify the specifics to suite their requirements. I can do the same for your organization.

For more information, please contact

Spontaneous Materials

Stanley R. Trout, Ph.D., P.E.

12348 Melrose Circle

Fishers, IN 46038 USA

1-317-596-0858

strout@ieee.org

www.spontaneousmaterials.com