Course Schedule & Topics:

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<th>Course Topic or Title</th>
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<td>1</td>
<td>8:00 am - 9:50 am</td>
<td>Powder Metallurgy</td>
<td>Dr. James Rice</td>
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<td>2</td>
<td>10:00 am - 11:50 am</td>
<td>Fractography in Failure Analysis</td>
<td>Dr. Raymond Fournelle</td>
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<td>11:50 am - 1:00 pm</td>
<td>Lunch Break</td>
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<td>3</td>
<td>1:00 pm - 2:50 pm</td>
<td>Supply Chain Management Fundamentals</td>
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<td>4</td>
<td>3:00 pm - 4:50 pm</td>
<td>Sensitivity Analysis for Engineered Systems</td>
<td>Dr. Casey Allen</td>
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Course Registration Information:

- Full Day Participants: $600.00 (0.8 CEUs or 8 PDHs)
  (includes course materials, refreshment, parking and lunch)
- Half-Day Participants: $350.00 (0.4 CEUs or 4 PDHs)
  (includes course materials, refreshment and parking)
- Class Limit: 40 persons/session
- Classroom: Marquette University - Engineering Hall 136
- Registration Deadline: July 31, 2015
- On-line Registration: http://www.marquette.edu/engineering/k12-outreach/practicing-engineers.php
- Contact Information: Ms. Lori Stempski
  (414) 288-6720 / Lori.Stempski@marquette.edu
  Dr. Hyunjae Park
  (414) 288-6716 / Hyunjae.Park@marquette.edu
Session 1 (8:00 am – 9:50 am)

Course Title/Name: “Powder Metallurgy”
Instructor: Dr. James Rice
Course Description: Powder metallurgy and particulate processing is a net shape metalworking technology that offers the capability to create novel materials with considerable control over chemistry, properties and microstructure. Topics to be discussed include powder characterization, powder production, consolidation and shaping techniques, sintering and full density processes. Equipment necessary for the production of components will be reviewed. Emphasis on applications and driving forces for migration to powder metal components through economic analysis will be presented.

Session 2 (10:00 am – 11:50 am)

Course Title/Name: “Fractography in Failure Analysis”
Instructor: Dr. Raymond Fournelle
Course Description: Macroscopic and microscopic examination of fracture surfaces for the purpose of identification of mechanisms and causes of failure. Ductile fracture, brittle fracture, fatigue and stress corrosion fractures will be discussed. Participants will learn how to identify mechanisms of fracture by hand-on examination of actual failures.

Session 3 (1:00 pm – 2:50 pm)

Course Title/Name: “Supply Chain Management Fundamentals”
Instructor: Dr. Douglas Fisher
Course Description: This two-hour course will cover supply chain fundamentals (functions, objectives, and principles), explore inherent supply chain trade-offs and conflicts, discuss contemporary pressures on supply chains, and present alternative supply chain strategies.

Session 4 (3:00 pm – 4:50 pm)

Course Title/Name: “Sensitivity Analysis for Engineered Systems”
Instructor: Dr. Casey Allen
Course Description: This course introduces participants to the fundamentals of performing uncertainty and sensitivity analysis on engineered systems. Global techniques will be emphasized for factor fixing and factor prioritization in engineering models. The course will be application-focused and includes script-based examples using open source tools. Participants will gain familiarity with these tools during the class, and will learn how to adapt the tools for their specific application.