

## **CWRU SLLP Lightweighting Course Outline for ASM MS&T Conference**

Draft: May 20, 2019

### **Course Title: Design for Advanced Manufacturing for Lightweighting Certificate**

2019 Course Date: Sunday, September 29, 2019 from 1-5 PM

Course Location: MS&T Conference, Portland, OR

Instructor(s): Sunniva Collins, Case Western Reserve University

### **Course Overview:**

- Learn where Additive Manufacturing (AM) technologies can be applied for design or economic advantage
- Understand lightweighting AM technologies, trends and applications in transportation industries
- Demonstrate problem-solving skills in lightweighting through analysis of case studies
- Learn the fundamentals of materials science and how to improve properties such as strength, stiffness and ductility in a wide array of lightweight material options
- Understand the use of advanced materials databases (e.g., Granta) and the impact of key market drivers on the selection criteria for critical applications in the transportation industry

### **Course Cost:**

Course Cost: \$599/participant

Corporate package discounts available. Companies who bring three or more participants to a lightweighting course are eligible for a discount of 10% of the course cost.

Registration: Through MS&T Website.

### **Learning Objectives**

- Understand practical uses of AM and advanced materials in advanced manufacturing
- Learn to diagnose and solve practical problems using additive manufacturing
- Gain insights into practical problems through case study analysis
- Earn CEUs to advance your career

### **Curriculum Development Partners:**

CWRU SLLP gratefully acknowledges our curriculum-development partners, including ASM International, MAGNET and Granta Design.