AM210
Design for Additive Manufacturing with Metals

Module 1 – New Possibilities with Additive Manufacturing

- Course Introduction
- Benefits of AM
- The Challenges of Additive Manufacturing
- Use Cases and Applications of Additive Manufacturing

Module 2 – Design for Additive Manufacturing and the Design Engineer

- Additive Manufacturing and the Design Engineer
- Design for Additive Manufacturing (DfAM) Use Cases

Module 3 – Replicate with Additive Manufacturing

- Why Replicate with Additive Manufacturing?
- When to Replicate?

Module 4 – Preparing a Part for Additive Manufacturing

- Using CAD Software to Create 3D Models
- The Build Plan
- The Process Plan

Module 5 – Post Process Planning

- Post Process Planning
- A Case Study Analysis of Additive Manufacturing Post-Processing
- Safety Considerations

Module 6 – Business Considerations

- Business Considerations
- Improving Consistency
- Reducing Risk & Monitoring Results

Module 7 – Adapt for Additive Manufacturing

- Deciding When to Adapt for Additive Manufacturing
- Adapt for Additive Manufacturing: Techniques, Constraints, and Common Risks
- Building a Better Business Case for Additive Manufacturing
- Case Study: Oil and Gas Latticed Part

Module 8 – Optimize for Additive Manufacturing

- Introduction: Optimizing Designs for Additive Manufacturing
- Optimize for Additive Manufacturing: Software Takes the Lead
- Weighing the Pros and Cons of an Optimized Design
- Optimizing Case Studies: Oil/Gas Component and Race Car Upright

Module 9 – Preparing for Build

- Preflight Checklist
- Course Recap

Final Exam