



ADDITIVE
MANUFACTURING
CENTER OF
EXCELLENCE

SEPTEMBER 9-11
SIMTech, SINGAPORE

ASTM CERTIFICATE COURSE

Methods of Qualification and Certification for Additive Manufacturing

Masterclass In Implementing Additive Manufacturing In Production Environment

ASTM International, who has been providing world-class training on Additive Manufacturing (AM), provides a training course with the mission to support scaling up of AM adoption.

ABOUT THE MASTERCLASS

Course Level: Intermediate to Advanced users

Course Language: English

This course covers the requirements and routes to validation for metal additive manufacturing parts produced by powder bed fusion and directed energy deposition manufacturing processes. This course will leverage recent case studies from the PBF and DED world to provide context for Structural Integrity challenges and opportunities.

The training course is based on ISO and ASTM standards and is aimed at those who are using, or plan to use, AM in serial or critical applications and would like to learn more about the routes to Qualification and Certification. Attendees would be required to have a strong background in Additive Manufacturing.

The instructors have in-depth experience of Materials, Qualification & Certification, and making parts from Additive Manufacturing

Methods. The learning methods are based on logic and experience, and real-life best practices (and lessons learned) will be shared. This is not a series of lectures; there will be discussions, mini-workshops, and plenty of opportunities to ask questions.

WHO SHOULD ATTEND?

This course is suitable for AM Engineers, AM operators, QA/QC Engineers, and other individuals with existing experience in AM who wish to know the route to qualification and certification.

SCHEDULE

Full-day classroom sessions: September 9 – 10 (9 a.m. – 6 p.m.)

Full-day industry visit & tour: September 11 (9 a.m. – 6 p.m.)

FULL COURSE FEES

Full rate: USD \$ 1,199 per person (for 3-day program)

Early-bird rate: USD \$ 999 per person (registered by July 11)

Bundle rate will be given for the group of more than 3 trainees

Skillsfuture funding is eligible for Singapore local trainees



Gain awareness on the best practice and the latest advancements in AM



Learn from experts from ASTM AMCoE & Auburn University



Earn a globally recognized certificate from ASTM International and a certificate from A*STAR

• See next page for course program agenda



OPENING ADDRESS

Dr. Mohsen Seifi
Vice President,
ASTM International

INSTRUCTORS



Dr. Mohsen Seifi
ASTM International



Dr. Nima Shamsaei
Auburn University



Dr. Khalid Rafi
ASTM International



Andy Lu
ASTM International

POINT OF CONTACT

Andy Lu
ASTM International
alu@astm.org

Course Program Agenda

DAY 1, SEPTEMBER 9

0830 – 0900 Registration; Welcome and Introduction

AM Foundations

- Fundamentals of Qualification & Certification
- Key ingredients
- Overview of Qualification & Certification framework
- Overarching and foundational controls

Classifications & Consequences

- AM Part Classification
- Consequences
- Structural Integrity

1200 – 1300 Lunch Break

Material Properties, Allowable, Material Property Suite

- Material Properties
- Material allowable and design values
- Mechanical property measurements
- Engineering equivalence
- Material property suite

DAY 2, SEPTEMBER 10

0900 – 0930 Recap of Day 1; Q & A Session

Requirements & Standards

- Requirements overview
- Importance of standards
- Process mapping with standards

Route to Qualification & Certification

- Materials and process foundations
- Machine and process qualifications
- IQ/OQ/PQ
- Candidate Material Qualification

1200 – 1300 Lunch Break

Part Production Controls, NDE Considerations, Defects, Managing Supply Chain

- AM part planning & AM part production Qualified AM Part process
- NDI considerations & Part Zoning
- In-situ monitoring & Supply chain

Qualification Testing & Service

- Qualification testing
- Industry perspective on AM qualification

1530 – 1700 Case Studies Session

DAY 3, SEPTEMBER 11

Industry Insights and Company Visit with Case Study Sharing

- Industry sharing on navigating AM qualification and certification from key industry sectors
- Insights into A*STAR's standards development efforts aligned with industry needs
- Industry company visits, with sector-specific case study sharing to highlight best practices