



TRAINING FOR LASER WELDING EXCELLENCE

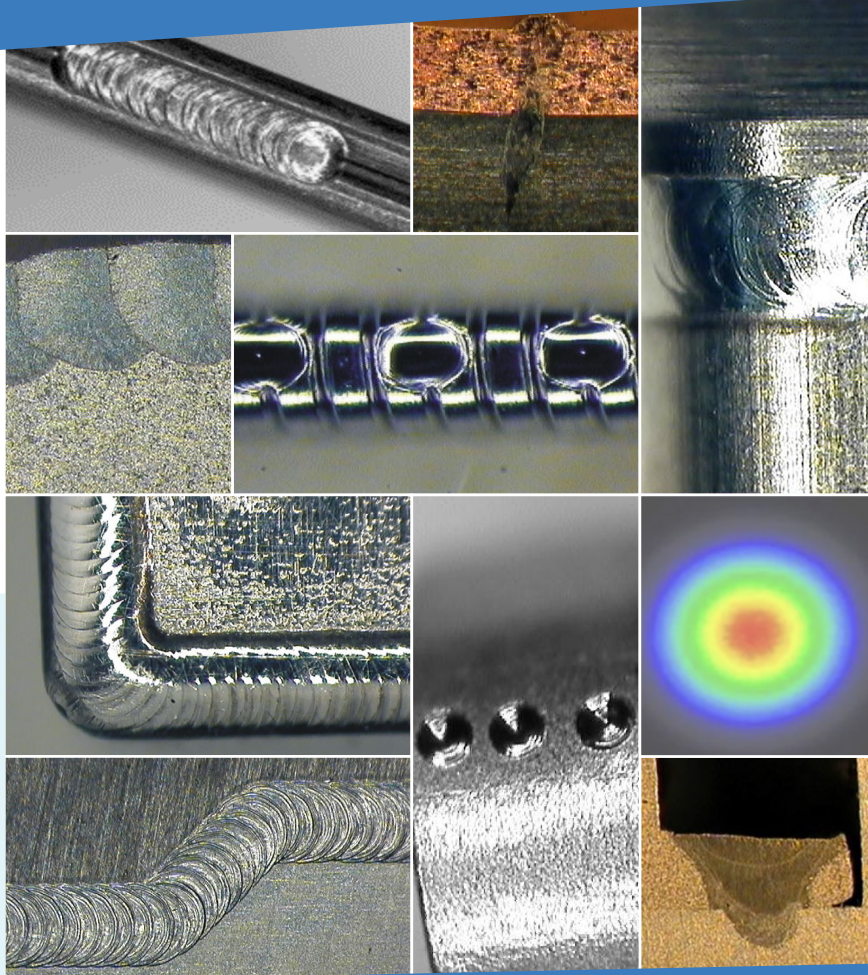
– tailored to all skill levels

EXPERT, PRACTICAL LASER WELDING TRAINING COURSE:

- Laser and laser welding basics
- Defining the weld
- Design for laser welding
- Lasers and focus heads
- Weld parameters
- Weld optimization
- Maintaining the weld in production

Onsite or virtual training, developed over decades of experience with laser welding. For those new to laser welding or seeking a refresher.

Training content and level can be tailored to your specific needs from beginner to advanced. The course instructor Dr. Geoff Shannon has been laser welding since 1989. Specializing in micro welding for medical device manufacturing, automotive, and electrical & electronic industries.



Learn more about the course:



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COURSE OUTLINE

PART 1: LASER WELDING FUNDAMENTALS

LASER WELDING BASICS

What is a Laser
How a Laser Welds
Laser Welding Modes
Characteristics of Laser Welds

DEFINING THE WELD

Weld Functionality
How to Test the Weld
On Site Test Equipment
Welding Standards

DESIGN FOR LASER WELDING

Materials & Plating
Dissimilar Metals
Joint Geometry
Fit-up Tolerances

PART 2: OPTIMIZING THE WELD

LASERS AND FOCUS HEADS

Fiber Lasers
Pulsed Nd:YAG Lasers
Green & Blue Lasers
Fixed Focus Heads
Scan Heads

WELD PARAMETERS

Peak & Average Power
Pulse Width & Frequency
Focus Spot Size
Shielding Gas
Tooling

WELD OPTIMIZATION

Weld Inspection
Part Preparation
Finding the Focus
Find Parameters for the Best Weld
Find the Process Window

PART 3: MAINTAINING THE WELD IN PRODUCTION

SYSTEM BENCHMARKING

Power & Energy Measurements
Beam Profile Measurement
Reference Weld Samples

TROUBLESHOOTING

Methodology
Production Weld Defects
Weld Drift
Weld Failure

IN PROCESS MONITORING

Measurement Options
Fault Identification

OUR MISSION:

Provide an independent nuts & bolts approach to laser welding training. The course accelerates the knowledge needed for design engineers, manufacturing and welding engineers, and operators.

INVESTING IN SUCCESS:

Attendees walk away with the knowledge, tools and approach to design, develop, optimize and maintain the highest yield production laser welds.

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