



**YOUNGSTOWN
STATE
UNIVERSITY**

CLASSIFICATION SERIES:

N/A

BARGAINING UNIT:

N/A – Externally Funded

Hybrid Machine Operator

SERIES PURPOSE: Operates Youngstown State University's Mazak Hybrid machine.

CLASS CONCEPT: Operates Youngstown State University's new Mazak Hybrid machine and works on an exciting project with a team consisting of members of the Air Force, Oak Ridge National Labs, Georgia Institute of Technology, the University of Texas at El Paso and NCDMM/America Makes with the goal of developing and demonstrating hardware and software required to fabricate, inspect, and repair tooling and die components using the Mazak hybrid process. The Mazak Hybrid Machine is a HOT WIRE based direct energy deposition process in combination with a machining platform representing an additive/subtractive hybrid manufacturing process that provides an excellent approach for fabricating complex geometries and repairing structural components. The use of this technology offers an opportunity to fabricate tooling molds rapidly and cost effectively. With HOT WIRE laser deposition technology, the Mazak Hybrid machine not only offers a high-speed additive solution and programmable welding automation but also full 5-axis machining center capabilities.

JOB DUTIES: Incumbents may perform some or all of these duties or other job-related duties as assigned.

Manages and operates the Mazak Hybrid Machine at the ETC. Proactively attains a safe and healthy work environment for all employees. Provides part processing /machine recommendations to best produce customer parts.

Conceptually designs work holding and tooling as needed to support the manufacture of customer parts.

Demonstrates machine operation and machine features when needed. Performs test cuts to demonstrate machine capability / proves processing concepts.

Calculates time study estimates of machine cycle time. Performs full turn key process development and testing including statistical analysis of part measurement.

Participates in training as needed.

OTHER FUNCTIONS AND RESPONSIBILITIES: Assists with training new hires.

Effective 11-05-2024

Performs any and all other duties assigned and/or required that are within the level of responsibility for this classification at the discretion of the supervisor.

KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of: metal additive manufacturing and machine tool metrology.

Skill in: reading, interpreting, and editing machine code for multi-axis CNC machines; CAM software for multi-axis CNC machines and CAD modeling.

Ability to: set up design of experiments.

(*) Developed after employment.

MINIMUM QUALIFICATIONS: At least a high school diploma and three years of experience as a CNC operator or another related field. Experience in reading, interpreting, and editing machine code for multi-axis CNC machines. Experience with CAM software for multi-axis CNC machines and CAD modeling. Experience and execution of setting up design of experiments. An understanding of the advantages and disadvantages of various metal additive manufacturing and machine tool metrology. Must be a US citizen.

PREFERRED QUALIFICATIONS: At least six years of experience as a CNC operator or another related field. Experience with Mazak Mazatrol machine operation system and CAD/CAM software such as Autodesk Fusion 360, Solidworks, hyperMILL and MasterCAM. Familiarity with various types of materials, machine and design set-up, and manual programming.

REQUIRED CERTIFICATIONS, TRAINING, AND/OR LICENSURES: None

PHYSICAL REQUIREMENTS: In accordance with the U.S. Department of Labor physical demands strength ratings, this position will perform medium work.

MEDIUM: work involves exerting 20 to 50 pounds of force occasionally, or 10 to 25 pounds of force frequently, or an amount greater than negligible and up to 10 pounds constantly to move objects.

UNUSUAL WORKING CONDITIONS: Not applicable