

TE.PE2 .PE2-Engineering II

Essential Curriculum

Standard

Indicator

CAD

TE.PE2.10 – Demonstrate the use of complex CAD commands

TE.PE2.10.01 – Explain three rules for drawing schematic diagrams

TE.PE2.10.02 – Design a title block and explain its function

Manufacturing Processes – CNC

TE.PE2.20 – Describe the structure of a CNC program

TE.PE2.20.01 – Demonstrate the operation of a CNC machine using a CNC program

TE.PE2.20.02 – Explain and demonstrate absolute and incremental positioning

Quality Assurance

TE.PE2.30 – Describe the function of precise measurement tools

TE.PE2.30.01 – Demonstrate the use of a dial caliper

TE.PE2.30.02 – Demonstrate the use of a digital caliper

TE.PE2.30.03 – Demonstrate the use of a micrometer

Automated Material Handling

TE.PE2.40 – Define the function of a robot operator station

TE.PE2.40.01 – Demonstrate the use of a robot controller

TE.PE2.40.02 – Demonstrate the use of positioning points using the teach pendant

Power and Electric Circuits

TE.PE2.50 – Define power and current in electric circuits

TE.PE2.50.01 – Connect and operate a parallel and series circuit

TE.PE2.50.02 – Connect and operate a circuit with a relay in it

TE.PE2.50.03 – State Ohm's law and explain its importance

Design of Structures

TE.PE2.60 – Describe three types of supports and explain their importance

TE.PE2.60.01 – Demonstrate the use of a data acquisition system to collect strain gauge data

TE.PE2.60.02 – Select a bridge type based on a given application

Mechanical Drives

TE.PE2.70 – Define linkage and explain its importance

TE.PE2.70.01 – Connect and operate a double-rocker linkage

TE.PE2.70.02 – Connect and operate a slider crank linkage

TE.PE2.70.03 – Connect and operate a crank rocker linkage

Pneumatics

TE.PE2.80 – Define hydraulics and give an application

TE.PE2.80.01 – Describe the functions of basic components in a hydraulic system

TE.PE2.80.02 – Demonstrate the use of basic components in a hydraulic system