



Global Position Profile

Global Position Name	Function	Comp Class
Manufacturing Engineer	Manufacturing	CC01

Job Summary

Assists with the planning, design, purchase, and/or implementation of integrated manufacturing, assembly or fabrication processes in a manufacturing plant.

Key Responsibilities

Helps determine the manufacturing processes required to achieve manufacturing goals according to product specification. Works with engineering to identify problems with product and performance; may recommend solutions or enhancements. Assists with plans and designs methods to improve efficiency in production. Work to improve equipment availability and capability by utilizing continuous improvement tools and working cross functionally. Define manufacturing standard working methods

Qualifications and Competencies

Skills

Project Management - Has a good understanding of and effectively applies project management techniques in low to moderately complex projects.

Fundamentals Of Manufacturing - Basic competence in the body of knowledge as defined by the Society of Manufacturing Engineers for a Certified Manufacturing Technologist (CMfgT). The body of knowledge includes the following areas: Mathematics, Applied Science, Process Design, Materials, Manufacturing Processes, Manufacturing Management, Manufacturing Economics, Quality Control, Computer Applications, and Automation. Working knowledge of the Fundamentals of Manufacturing. More than 2 years of experience working as a Manufacturing Engineer, but not yet a Certified Manufacturing Technologist (Society of Manufacturing Engineers), or local equivalent)

Equipment / Capital Procurement - Understanding the requirements for purchasing tools and equipment according to Cummins Production Equipment Specifications. Capital purchases require the approval of a Request for Capital Appropriations (RFA) which includes justification of the project from a financial/ strategic standpoint and must be completed in a specific format defined by the documented procedure. Working knowledge of the Cummins Production Equipment Specifications. Has initiated the purchase of tools and equipment. Understands the difference between capital and expense purchases. Experienced at writing Request for Capital Appropriations

Fundamentals Of Controls Engineering - Knowledge of various hardware and software used in the control of manufacturing processes and equipment. Includes understanding of: Programmable Logic Controllers, Ladder Logic, and Human-Machine Interfaces. Communication networks and protocols used on the shop floor. Control systems including pneumatic, hydraulic, and electrical sources of energy. Sensors, actuators, and various loop control technologies. Motion control, servo systems, and multi-axis control including robotics. Working knowledge of electrical controls. Good understanding of programmable logic controllers and ladder logic programs. Can troubleshoot electrical circuits and understand electrical prints. Understand how machines operate and can suggest and implement basic improvements. Basic knowledge of the interface of the shop floor control system to the plant's Manufacturing Execution System.

Fundamentals Of Industrial Engineering - Concerned with the design, improvement, and installation of integrated systems of people, materials, information, equipment, and energy. It draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems. Knows how to conduct a work measurement study. Can balance a production line using the data from a work measurement study. Can effectively apply the basic principles of ergonomics in a workstation design project. Familiar with process documentation methods. Uses material flow data to develop an efficient and effective facility layout.

Workstation Design - This skill involves being able to design an operator station. Design of an operator station requires knowledge of anthropometrics, ergonomics, National Institute of Occupational Safety and Health (NIOSH) safety standards, office layout guidelines, etc. Many of these standards must be utilized to develop an efficient work station design. Can apply work station design standards to design an ergonomically sound station for one manufacturing operation or office space.

Ergonomics - Intended to reduce operator fatigue and discomfort. It is a scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. Knows how to perform an ergonomic analysis/assessment and make necessary changes/modifications based on the results in order to improve the ergonomics of a workstation. Has attended Ergo in Action training

Problem Solving And Quality Improvement - Problem Solving and Improvement approaches, including understanding of tools/process type and selection, plus Corrective and Preventive Action processes. A CQE (Certified Quality Engineer) and/or have 2 years experience in this role. Able to lead problem solving efforts. Including the use of a variety of problem solving tools such as 7 Step, FMEA and Kaizen.

Education, Licenses, Certifications

College, university, or equivalent degree in Manufacturing Engineering or related technical or scientific field required.

Experience

Minimal level of relevant work experience required.