

Occupation Cluster: Manufacturing Technician

Function or Job Duty: A – Establish Internal/External Customer Needs

TASK	Performance Criteria How do we know when the task is performed well?	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
<p>A1</p> <p>Interpret and clarify internal customer expectations</p>	<ul style="list-style-type: none"> ◆ Computer is accessed to locate information. ◆ Expectations are promptly reviewed and analyzed for viability. ◆ Interviews with internal customers are performed to confirm expectations. ◆ Answers to questions are obtained and recorded for accuracy of implementation. ◆ Communication is clear, concise and complete. ◆ Alternatives are respectfully communicated when necessary. 	<ul style="list-style-type: none"> ◆ Ability to qualify and quantify internal customer expectations. ◆ Knowledge of industry terminology and concepts. ◆ Knowledge of company work-in-process (WIP) flow. ◆ Knowledge of SPC (Statistical Process Control) calculations and procedures. ◆ Ability to understand statistical concepts. 	<ul style="list-style-type: none"> ◆ Ability to interface with computers and understand computer systems. ◆ Ability to analyze possible discrepancies and provide solutions. ◆ Ability to read and interpret specifications. ◆ Ability to perform mathematical calculations for Statistical Process Control (SPC).
<p>A2</p> <p>Review and document specifications and make recommendations on requirements using quality-planning tools</p>	<ul style="list-style-type: none"> ◆ Computer is accessed to locate information. ◆ Revision dates are compared. ◆ Quality planning tools are utilized in accordance with company procedures. ◆ Measurements are accurately performed and documented. ◆ Specifications are discussed with team members and problems are identified. ◆ Alternatives and recommendations are presented to appropriate personnel. ◆ Communication is clear, concise and complete. 	<ul style="list-style-type: none"> ◆ Knowledge of manufacturing process. ◆ Knowledge of specific equipment specifications. ◆ Ability to select appropriate quality planning tools. ◆ Ability to work with industry specifications, requirements, and diagrams. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to read and locate information within technical documents. ◆ Ability to interface with computers. ◆ Ability to resolve conflict and negotiate solutions with team members. ◆ Ability to pass on information to others through written and verbal communication. ◆ Ability to present information to others. ◆ Ability to gather, interpret and organize data.
<p>A3</p> <p>Assist in audits by internal customers and ISO</p>	<ul style="list-style-type: none"> ◆ Audits are performed according to company policies and procedures. ◆ Specifications are compared to audit specifications and discrepancies are recorded. ◆ Information is gathered and distributed. ◆ Interrogative interactive dialogue is appropriate to situation and circumstances. 	<ul style="list-style-type: none"> ◆ Knowledge of company manufacturing process. ◆ Ability to use industry terminology and concepts. ◆ Ability to compare actual specifications with audit specifications. ◆ Knowledge of ISO and customer standards. ◆ Knowledge of company quality policies and systems. 	<ul style="list-style-type: none"> ◆ Ability to communicate with others. ◆ Ability to locate relevant information in a timely manner. ◆ Ability to read specifications and requirements.

Occupation Cluster: Manufacturing Technician

Function or Job Duty: B –Support Design Product for Manufacturing

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
<p>B1 Assist in the development and assessment of prototype processes and products</p>	<ul style="list-style-type: none"> ◆ Prototype processes reflect customer needs and cost specifications. ◆ Machinery automation capability is assessed to determine effectiveness. ◆ Manufacture-ability of a product is discussed and assessed with team members. ◆ Potential risks and dependencies within processes are identified and recorded. ◆ Interrogative interactive dialogue with team members is appropriate to situation and circumstances. 	<ul style="list-style-type: none"> ◆ Ability to follow manufacturing process and procedures. ◆ Knowledge of company standards and industry protocols. ◆ Knowledge of industry terminology and concepts. ◆ Knowledge of product and equipment specifications. ◆ Ability to work with and understand the metrology process. 	<ul style="list-style-type: none"> ◆ Ability to observe process and communicate in writing what was observed. ◆ Ability to follow written instructions, specifications and process procedures. ◆ Ability to pass on information to others through written and verbal communication. ◆ Ability to interface with computers.
<p>B2 Document product specifications (e.g., formulas, engineering drawings, and materials) including product materials</p>	<ul style="list-style-type: none"> ◆ Documentation is performed according to company policies and procedures. ◆ Calculations are correctly performed. ◆ Information is accurate, complete and recorded according to company procedures. ◆ Communication is clear, concise and complete. 	<ul style="list-style-type: none"> ◆ Knowledge of manufacturing process and procedures. ◆ Knowledge of SPC calculations and procedures. ◆ Ability to use statistical and manufacturing terminology. ◆ Ability to perform company-recording procedures. ◆ Ability to understand basic chemistry consistent with manufacturing. 	<ul style="list-style-type: none"> ◆ Ability to key-in computer information to communicate with others. ◆ Ability to read and locate information within technical documents. ◆ Ability to understand mathematical ranges and concepts. ◆ Ability to perform SPC calculations.
<p>B3 Provide feedback on prototype processes and products</p>	<ul style="list-style-type: none"> ◆ Interactive dialogue is appropriate to situation and circumstances. ◆ Team member’s positions within the manufacturing process are respected. ◆ Issues are identified and discussed. ◆ Communication is clear, concise and complete. 	<ul style="list-style-type: none"> ◆ Knowledge of manufacturing process and procedures. ◆ Knowledge of industry terminology and concepts. ◆ Ability to work in conjunction with engineers. ◆ Ability to assess the manufacture-ability of a product. ◆ Ability to understand the profitability of a process. 	<ul style="list-style-type: none"> ◆ Ability to communicate thoughts, ideas and information, verbally and in writing. ◆ Ability to communicate within an intercultural environment. ◆ Ability to respect diversity in work environment. ◆ Ability to accept constructive criticism.

Occupation Cluster: Manufacturing Technician
Function or Job Duty: C – Support Production Systems

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
C1 Assist in the development of work instructions and modify standards for internal operations	<ul style="list-style-type: none"> ◆ Work instructions are developed according to company policies and procedures. ◆ Development reflects the needs of the process, employees and company. ◆ Issues are discussed and resolved. ◆ Recommendations are presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to follow manufacturing process and procedures. ◆ Ability to understand signature loops and respect document control system responsibilities. ◆ Knowledge of product and equipment specifications. 	<ul style="list-style-type: none"> ◆ Ability to synthesize information. ◆ Ability to organize and prioritize information. ◆ Ability to write technical documentation. ◆ Ability to communicate thoughts, ideas and information, verbally and in writing. ◆ Ability to interface with computers.
C2 Perform training and certification of new employees	<ul style="list-style-type: none"> ◆ Employee's strengths and weaknesses are assessed to determine appropriate training. ◆ Training and materials clearly communicate required information. ◆ Training is sequentially organized and represents multiple learning styles. ◆ Content of training is consistent with learning requirements for certification. 	<ul style="list-style-type: none"> ◆ Knowledge of different learning styles. ◆ Knowledge of learning requirements for certification. ◆ Ability to create appropriate presentation materials. ◆ Ability to organize technical material for ease of learning. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to listen to others. ◆ Ability to speak clearly and concisely. ◆ Ability to sequentially organize information. ◆ Ability to observe and assess learning style of audience and adapt information accordingly.
C3 Evaluate and record performance of production tool set	<ul style="list-style-type: none"> ◆ Tool set outcomes are evaluated against performance goals. ◆ Measurements are accurately calculated. ◆ Tool set performance is documented according to company procedures. ◆ Significant problems are recorded and immediately communicated to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Knowledge of equipment specifications. ◆ Ability to select and use appropriate procedures to document performance. ◆ Ability to operate equipment according to specifications. ◆ Knowledge of SPC calculations and procedures. 	<ul style="list-style-type: none"> ◆ Ability to perform SPC calculations. ◆ Ability to visualize outcomes and record results. ◆ Ability to read and follow operational procedures. ◆ Ability to collect data and analyze information.
C4 May conduct periodic internal compliance reviews of tool set	<ul style="list-style-type: none"> ◆ Tool set is assessed and strengths and weaknesses are identified and recorded. ◆ Impact to system is accurately identified and recorded. ◆ Review is performed according to auditor assessment procedures. ◆ Review documentation is presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to assess impact of manufacturing process performance on whole system. ◆ Ability to follow company quality policies and procedures. ◆ Ability to perform auditor assessment procedures. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to interpret and clarify communication. ◆ Ability to examine information for relevance and accuracy. ◆ Ability to follow organizational procedures.

Occupation Cluster: Manufacturing Technician
Function or Job Duty: D – Plan and Monitor Production

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
D1 Maintain and adjust production plan to meet internal customer requirements	<ul style="list-style-type: none"> ◆ Needed information is gathered from internal customers. ◆ Complete set of requirements is communicated to and approved by internal customer. ◆ Estimate of time and materials needed to meet customer requirements is identified. ◆ Production plan is adjusted in conjunction with supervisor. 	<ul style="list-style-type: none"> ◆ Ability to coordinate with others to meet deadlines. ◆ Ability to obtain customer approval of requirements. ◆ Ability to understand WIP capacity and flow. ◆ Knowledge of manufacturing process and procedures. 	<ul style="list-style-type: none"> ◆ Ability to satisfy customer expectations. ◆ Ability to adapt to change. ◆ Ability to identify relevant, goal-oriented activities. ◆ Ability to summarize information and requirements.
D2 Monitor production flow	<ul style="list-style-type: none"> ◆ Relevant data is collected from departments to identify status of work in process. ◆ Collected data is compared with production to determine timely completion of project. ◆ Standard monitoring system is implemented according to company procedures. ◆ Product quality and quantity is identified. ◆ Necessary changes to production flow are identified and recommendations are presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to use standard monitoring system procedures. ◆ Ability to collect data and monitor WIP status. ◆ Ability to use automation and understand critical ratios to prioritize production flow process. 	<ul style="list-style-type: none"> ◆ Ability to select relevant, goal-oriented activities, allocate time and follow schedules. ◆ Ability to obtain and evaluate relevant data. ◆ Ability to monitor efficient and effective utilization of materials, measurements and tools.
D3 Assist in routine low volume processing of product	<ul style="list-style-type: none"> ◆ Accuracy of machine is evaluated to identify system performance. ◆ Product is compared to specifications and drawings and discrepancies are recorded. ◆ Problems are identified and alternative solutions are discussed. ◆ Recommendations are presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to read processing instructions. ◆ Knowledge of machinery process and specifications. ◆ Ability to compare product to drawings and specifications. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to analyze information and document results. ◆ Ability to access system performance and compare output to expectations. ◆ Ability to ask pertinent questions.
D4 Monitor wafer and semiconductor fabrication equipment	<ul style="list-style-type: none"> ◆ Baseline data is compared with equipment to determine proper functioning of equipment. ◆ Appropriate monitoring systems are implemented according to company policies. ◆ Accuracy of equipment is evaluated. ◆ Origin of upper and/or lower defect is identified and recorded. ◆ Recommendations are presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to use standard monitoring methods. ◆ Knowledge of product and equipment specifications. ◆ Ability to differentiate between upper and lower defects and the origination of defect. ◆ Ability to use metrology tools. 	<ul style="list-style-type: none"> ◆ Ability to monitor efficient and effective utilization of materials, measurements and tools. ◆ Ability to organize and prioritize use of time. ◆ Ability to read and locate information within technical documents. ◆ Ability to recognize problem and devise a solution.

Occupation Cluster: Manufacturing Technician

Function or Job Duty: E – Maintain & Optimize Equipment

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
<p>E1 Manage and improve preventive maintenance plans</p>	<ul style="list-style-type: none"> ◆ Types of work-saving devices used in manufacturing are identified and used. ◆ Improvement processes are integrated. ◆ Methods of preventing accidents in the workplace are identified. ◆ Scenarios in which work-saving devices can be used are thoroughly described. 	<ul style="list-style-type: none"> ◆ Ability to apply and use basic mechanical skills. ◆ Ability to identify and select appropriate machine tools. ◆ Ability to determine procedures for setup and operation of equipment. ◆ Knowledge of electrical, mechanical and pneumatic concepts. ◆ Knowledge of industry terminology and concepts. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to follow procedures and select related technologies. ◆ Ability to identify problem, determine solution and solve problem. ◆ Ability to communicate thoughts, ideas and information in writing. ◆ Ability to resolve conflict and negotiate solutions with team members. ◆ Ability to prevent, identify or solve technological problems.
<p>E2 Perform preventive maintenance</p>	<ul style="list-style-type: none"> ◆ Preventive maintenance is performed according to manufacturer’s instructions. ◆ Maintenance is in accordance with company procedures and allotted time. ◆ Appropriate personal protective equipment (PPE) is selected and used. ◆ Problems are identified and immediately communicated to appropriate personnel. ◆ Established safety procedures are followed when around machinery/ equipment and using machine tools. ◆ Appropriate concepts are applied to situations. 	<ul style="list-style-type: none"> ◆ Ability to describe specific machine tool functions. ◆ Knowledge of electrical, mechanical and pneumatic concepts. ◆ Knowledge of all environmental safety requirements. ◆ Ability to demonstrate safe, careful treatment and maintenance of tools, equipment and machines. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to suggest modifications to existing system and develop new or alternative systems to improve performance. ◆ Ability to identify unsafe work conditions. ◆ Ability to plan and organize work. ◆ Ability to define maintenance procedures.
<p>E3 Monitor maintenance activities</p>	<ul style="list-style-type: none"> ◆ Standard monitoring methods are used according to company policies. ◆ Baseline data is compared with activities to determine timely completion. ◆ Maintenance documentation is read to determine appropriate action for a specific situation. ◆ Established safety procedures are followed when around machinery/ equipment and using machine tools. 	<ul style="list-style-type: none"> ◆ Ability to work with minimal supervision. ◆ Ability to read documentation, such as computer manuals to determine actions for specific situations. ◆ Ability to use standard monitoring methods. ◆ Knowledge of industry terminology and concepts. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to select relevant activities, allocate time and follow schedules. ◆ Ability to observe and obtain relevant data in a timely manner. ◆ Ability to monitor efficient and effective utilization of materials and tools.

<p>E4 Troubleshoot and diagnose equipment</p>	<ul style="list-style-type: none"> ◆ Electrical troubleshooting procedures are followed. ◆ Problem-solving system is applied. ◆ Cause of problem is identified. ◆ Malfunctions are immediately reported to appropriate personnel. ◆ Problem-solving process is documented. ◆ Troubleshooting is in compliance with established safety practices. 	<ul style="list-style-type: none"> ◆ Ability to apply and use basic mechanical, electrical, pneumatic and process skills. ◆ Knowledge of company problem-solving systems. ◆ Ability to identify opportunities for applying problem-solving techniques. ◆ Ability to document the troubleshooting process. 	<ul style="list-style-type: none"> ◆ Ability to understand procedures for setup, use and operation of equipment. ◆ Ability to communicate thoughts, ideas, and information in writing. ◆ Ability to recognize problem, devise and collaborate with others to implement a solution. ◆ Ability to exert a high level of effort and persevere towards attaining goals.
<p>E5 Inspect, adjust, clean or align equipment</p>	<ul style="list-style-type: none"> ◆ Equipment and machines are inspected to identify possible modification needs. ◆ Adjustments and alignments are made according to manufacturer's instructions. ◆ Clean room protocol is implemented. ◆ Periodic checks are performed during operation to determine functionality. ◆ Appropriate chemicals are used to clean specific pieces of equipment. 	<ul style="list-style-type: none"> ◆ Ability to identify a variety of common machine tools. ◆ Ability to apply and use clean room protocol. ◆ Knowledge of specific equipment specifications. ◆ Ability to select the appropriate chemicals to use for various applications. ◆ Ability to identify system components to be modified. 	<ul style="list-style-type: none"> ◆ Ability to prevent, identify and solve problems with equipment. ◆ Ability to choose procedures, tools or equipment to produce desired results. ◆ Ability to follow procedures and specifications.
<p>E6 May assist in calibration of equipment</p>	<ul style="list-style-type: none"> ◆ Appropriate measurement techniques and instruments are selected and used. ◆ Manufacture's process instructions are obtained, interpreted and implemented. ◆ Calibration is accurately documented. 	<ul style="list-style-type: none"> ◆ Ability to use and apply precision measurement in manufacturing. ◆ Ability to match appropriate measurement tools with various types of measurement requirements. ◆ Ability to describe the selection criteria for measurement tools. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to understand procedures for setup, use and operation of equipment. ◆ Ability to identify need for data, and obtain and evaluate data. ◆ Ability to read and locate information within technical documents. ◆ Ability to understand and calculate ratios.
<p>E7 Make modifications to equipment to optimize performance</p>	<ul style="list-style-type: none"> ◆ Modifications are made according to manufacturer's specifications. ◆ Clean room protocol is implemented. ◆ Periodic checks are performed during operation to verify changes have optimized equipment. ◆ Change order is accurate and complete, and presented to management for approval. ◆ Process flow instructions and delivery schedules are communicated. 	<ul style="list-style-type: none"> ◆ Knowledge of the appropriate personnel to make modifications. ◆ Ability to organize system modification information with a logical flow. ◆ Knowledge of product and equipment specifications. ◆ Ability to assess the manufacture-ability of a product. 	<ul style="list-style-type: none"> ◆ Ability to communicate thoughts, ideas and information in writing. ◆ Ability to present information to others. ◆ Ability to gather, interpret and organize data. ◆ Ability to resolve conflict and negotiate solutions with team members.

Occupation Cluster: Manufacturing Technician

Function or Job Duty: F –Support and Maintain Quality Systems

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
<p>F1 Ensure manufacturing tool set meets quality system requirements (e.g., QS9000, ISO9000 and other customer requirements)</p>	<ul style="list-style-type: none"> ◆ Sources of requirements are reliable and current. ◆ Tool set is compared to requirements to identify areas of noncompliance. ◆ Noncompliance is documented and presented to appropriate personnel. ◆ Tool set is modified to meet quality system requirements. 	<ul style="list-style-type: none"> ◆ Knowledge of SPC calculations and procedures. ◆ Knowledge of business needs, industry standards, and customer requirements. ◆ Ability to identify key sources of information. ◆ Knowledge of quality systems and line yield. ◆ Ability to distinguish trends and determine manufacturing results. 	<ul style="list-style-type: none"> ◆ Ability to summarize information and requirements. ◆ Ability to identify and prioritize the need for correct data. ◆ Ability to perform mathematical calculations for SPC. ◆ Ability to apply and use information-gathering methods.
<p>F2 Inspect in process and completed semiconductor products</p>	<ul style="list-style-type: none"> ◆ Inspections are performed according to plan and within scheduled timelines. ◆ Defects are identified. ◆ Error impact on performance is discussed and evaluated with team members. ◆ Recommendations are formulated and presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to evaluate error impact on performance in a group or team environment. ◆ Ability to recommend an adjustment to the system. ◆ System operation is according to company policy and procedures. ◆ Knowledge of material requirements and equipment specifications. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to collect and analyze information. ◆ Ability to provide creative ideas. ◆ Ability to resolve conflict and negotiate solutions with team members. ◆ Ability to identify problem. ◆ Ability to make recommendations to various audiences.
<p>F3 Test integrated circuits</p>	<ul style="list-style-type: none"> ◆ Appropriate testing tools are selected and safely used according to manufacturer. ◆ Test results are documented and evaluated. ◆ Recommendations are recorded and presented to appropriate personnel. ◆ System is tested according to company procedures and timeline. 	<ul style="list-style-type: none"> ◆ Ability to apply and use testing tools (probes, etc.). ◆ Ability to evaluate test results and generate recommendations according to company procedures. ◆ Knowledge of system requirements and procedures. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to follow procedures and processes. ◆ Ability to analyze information and identify implications. ◆ Ability to appropriately refer discrepancies. ◆ Ability to make recommendations to various audiences.

<p>F4 Compare and contrast data and standards to determine appropriate dispositions</p>	<ul style="list-style-type: none"> ◆ Criteria for dispositions are obtained. ◆ Data and standards are compared. ◆ Appropriate dispositions are identified. ◆ Results are documented and presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to determine appropriate material and tool usage. ◆ Knowledge of manufacturing methods. ◆ Knowledge of company policies and procedures. ◆ Ability to understand process engineering. 	<ul style="list-style-type: none"> ◆ Ability to forecast material and supply needs. ◆ Ability to visualize outcomes and communicate results. ◆ Ability to acquire, organizes, analyze and communicate information via computer.
<p>F5 May perform light wiring using logic and schematic diagrams</p>	<ul style="list-style-type: none"> ◆ Wiring is optimized for production. ◆ Diagrams are accurately interpreted for proper installation. ◆ Wiring is performed according to company and safety procedures. 	<ul style="list-style-type: none"> ◆ Ability to interpret diagrams, formulas, and schematic commonly used in manufacturing. ◆ Ability to apply and use lock out/tag out procedures. ◆ Knowledge of wiring requirements and company procedures 	<ul style="list-style-type: none"> ◆ Ability to apply underlying rules and principles. ◆ Ability to determine optimum means to produce desired results. ◆ Ability to interpret commonly used industry diagrams and terminology.

Occupation Cluster: Manufacturing Technician

Function or Job Duty: G – Improve Manufacturing Process

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
<p>G1 Use company problem-solving systems to continuously improve manufacturing operations</p>	<ul style="list-style-type: none"> ◆ Problem-solving system is used according to company procedures. ◆ Information to determine and improve work processes is collected and analyzed. ◆ Possible improvements are documented and presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to diagnose system performance and make corrections within established parameters. ◆ Knowledge of problem-solving systems. ◆ Knowledge of company policies and procedures. ◆ Understanding of company profitability. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to recognize a problem and implement a plan of action according to company procedures. ◆ Ability to generate ideas and make recommendations congruent with an identified problem.
<p>G2 Use standard improvement tools to define problem, identify possible causes and evaluate causes and potential solutions</p>	<ul style="list-style-type: none"> ◆ Standard improvement tools are used according to company procedures. ◆ Concepts of manufacturing are applied. ◆ Results are documented and presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Ability to use standard improvement tools according to company policies and procedures. ◆ Ability to identify the relationship between SPC steps and specific production processes. ◆ Knowledge of company's policies and procedures. ◆ Understanding of statistical concepts consistent with manufacturing. 	<ul style="list-style-type: none"> ◆ Ability to apply appropriate underlying rules and principles to identify, evaluate and solve problems. ◆ Ability to demonstrate knowledge of social, organizational and technological systems and work and operate effectively within them. ◆ Ability to apply math and statistic functions to solve problems. ◆ Ability to utilize SPC appropriate to situation.
<p>G3 Monitor and process output parameters</p>	<ul style="list-style-type: none"> ◆ Monitoring procedures are applied according to company procedures. ◆ Appropriate quality planning tools are selected and used. ◆ Corrective Action Requests (CARS) are implemented according to company policies and procedures. ◆ Communication is accurate, concise and complete. 	<ul style="list-style-type: none"> ◆ Knowledge of manufacturing process. ◆ Knowledge of specific equipment specifications. ◆ Ability to select appropriate quality planning tools. ◆ Ability to work with industry specifications, requirements, and diagrams. ◆ Knowledge of industry terminology and concepts. ◆ Ability to perform CARS (Corrective Action Requests). ◆ Knowledge of company's policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to utilize SPC. ◆ Ability to read and locate information within technical documents. ◆ Ability to interface with computers. ◆ Ability to resolve conflict and negotiate solutions with team members. ◆ Ability to pass on information to others through written and verbal communication. ◆ Ability to understand and identify the root cause and the symptoms of a problem. ◆ Ability to gather, interpret and organize data.

<p>G4 Analyze and troubleshoot process related problems</p>	<ul style="list-style-type: none"> ◆ Problem is diagramed to facilitate the development of solutions. ◆ Process analysis is performed and documented. ◆ Experiments are conducted in conjunction with team members. ◆ Solutions are discussed and potential risks are identified. ◆ Cost/benefit of solutions are identified and recommendations are made. ◆ New process steps are implemented per oral instructions, when necessary. 	<ul style="list-style-type: none"> ◆ Ability to create and interpret basic graphs and charts consistent with manufacturing. ◆ Ability to express (written and verbal) the mathematical and statistical concepts used in manufacturing. ◆ Knowledge of company's policies and procedures. ◆ Knowledge of manufacturing process. ◆ Ability to use industry terminology and concepts to solve problems and document troubleshooting process. ◆ Knowledge of technical documentation consistent with manufacturing. 	<ul style="list-style-type: none"> ◆ Ability to receive, interpret and respond to verbal messages and other cues. ◆ Ability to accept constructive criticism. ◆ Ability to organize ideas and communicate oral messages appropriate to listeners and situations. ◆ Ability to observe system process details to identify problems. ◆ Ability to analyze problems with team members. ◆ Ability to resolve conflict and negotiate solutions with team members. ◆ Ability to apply math and statistic functions to solve problems.
<p>G5 Participate in product experiments to find source of process problems to optimize process limits</p>	<ul style="list-style-type: none"> ◆ Appropriate tools are selected and used. ◆ Experiments are performed according to company policies and procedures. ◆ Problem-solving system is applied. ◆ Interrogative interactive dialogue is performed with team members. ◆ Cause of problem is identified. ◆ Problem-solving process is documented and presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Knowledge of process product. ◆ Knowledge of the equipment. ◆ Knowledge of the design of the experiments. ◆ Knowledge of company policies and procedures. ◆ Knowledge of electronics consistent with manufacturing. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to utilize scientific notations, metrics, speed-related measurement tools, ratios, and technical math. ◆ Ability to demonstrate intercultural and interpersonal skills to work well with internal customers and management. ◆ Ability to communicate thoughts and ideas in writing. ◆ Ability to demonstrate presentation skills when presenting information to internal customers and/or management.
<p>G6 Participate in design of experiments to find source of process problems to optimize process limits</p>	<ul style="list-style-type: none"> ◆ Appropriate tools are selected and used. ◆ Experiments are performed according to company policies and procedures. ◆ Problem-solving system is applied. ◆ Interrogative interactive dialogue is performed with team members. ◆ Cause of problem is identified. ◆ Problem-solving process is documented and presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Knowledge of process product. ◆ Knowledge of the equipment. ◆ Knowledge of company policies and procedures. ◆ Knowledge of electronics consistent with manufacturing. ◆ Ability to obtain DOE/DOX training. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to utilize scientific notations, metrics, speed-related measurement tools, ratios, and technical math. ◆ Ability to demonstrate intercultural and interpersonal skills to work well with internal customers and management. ◆ Ability to communicate thoughts and ideas in writing. ◆ Ability to demonstrate presentation skills when presenting information to internal customers and/or management.

Occupation Cluster: Manufacturing Technician

Function or Job Duty: H – Provide for Health, Safety and Environmental Considerations

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
<p>H1 Ensure manufacturing system meets health and safety requirements</p>	<ul style="list-style-type: none"> ◆ Personal protective equipment (PPE) is selected and used as required. ◆ Safety procedures are followed when around machinery/equipment and when using machine tools. ◆ Unsafe practices and machinery malfunctions are immediately reported to appropriate personnel. ◆ Clean and safe work environment is maintained. 	<ul style="list-style-type: none"> ◆ Knowledge of chemistry consistent with manufacturing industry. ◆ Knowledge of ergonomics and its application to the manufacturing industry. ◆ Ability to select and use appropriate PPE (personal protective equipment). ◆ Understanding of chemicals and gases one is exposed to in a specific work environment. ◆ Ability to obtain ERT certification. ◆ Ability to apply and use lock out/tag out procedures. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to identify different types of chemicals. ◆ Ability to preserve safety goals. ◆ Ability to identify how safety systems work and operate effectively within them. ◆ Ability to maintain a safe work environment. ◆ Ability to assume responsibility for the personal safety of self and others. ◆ Ability to interpret Material Data Safety Sheets. ◆ Ability to report unsafe practices and machinery malfunctions to appropriate personnel.
<p>H2 Ensure manufacturing system meets environmental management requirements</p>	<ul style="list-style-type: none"> ◆ Waste products are evaluated to identify proper disposal. ◆ Proper waste disposal habits are practiced to prevent spontaneous ignition. ◆ Potential pollution issues are identified, evaluated and documented. ◆ Environmental issues are identified, evaluated and impact statements are prepared, when necessary. ◆ Flammable (hazardous) materials are handled and stored appropriately. ◆ Aisles are kept clear of equipment and materials. 	<ul style="list-style-type: none"> ◆ Ability to dispose waste according to company policies and procedures to prevent spontaneous ignition. ◆ Ability to keep aisles clear of equipment and materials according to company policies ◆ Ability to identify different types of chemical, biological and physical hazards within a specific work environment ◆ Ability to recognize chemicals by sense of smell. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to evaluate and document potential pollution issues. ◆ Ability to evaluate waste products for proper disposal. ◆ Ability to evaluate environmental issues and prepare environmental impact statements. ◆ Ability to properly handle and store flammable materials.
<p>H3 Perform emergency shutdown procedures</p>	<ul style="list-style-type: none"> ◆ Emergency shutdown procedures are performed according to company policies and procedures. ◆ EMO button is immediately located and pressed when severity of task dictates. ◆ OSHA safety requirements are followed. ◆ Machinery malfunctions are immediately reported to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Knowledge of company policies and procedures. ◆ Knowledge of EMO button. ◆ Understanding of severity of task. ◆ Knowledge of OSHA safety requirements. 	<ul style="list-style-type: none"> ◆ Ability to report machinery malfunctions to appropriate personnel. ◆ Ability to create accurate and thorough communication. ◆ Ability to report as to why the action was taken. ◆ Ability to interface with computers.

<p>H4 Ensure clean room protocol is maintained</p>	<ul style="list-style-type: none"> ◆ Appropriate personal protective equipment (PPE) is selected and used as required. ◆ Clean room protocol is maintained according to company policies and procedures. ◆ Tasks are performed in a timely manner. 	<ul style="list-style-type: none"> ◆ Knowledge of clean room equipment. ◆ Ability to select appropriate personal protective equipment (PPE). ◆ Knowledge of OSHA requirements. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to read specifications. ◆ Ability to locate information within specifications. ◆ Ability to follow through on assigned tasks.
--	---	--	---

Occupation Cluster: Manufacturing Technician
Function or Job Duty: I – Perform Production Duties

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS Foundation/Personal Qualities
I1 Perform photolithography	<ul style="list-style-type: none"> ◆ Appropriate tools are utilized. ◆ Idle time on tools is quantified. ◆ Photolithography is performed according to company procedures and manufacture’s instructions. 	<ul style="list-style-type: none"> ◆ Understanding of photolithography and the fabrication process. ◆ Knowledge of WIP flow process management. ◆ Ability to understand WIP. ◆ Knowledge of company’s policies and procedures. ◆ Ability to demonstrate proper use of tools. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to perform multiple tasks in a timely manner. ◆ Ability to organize and prioritize tasks within a team environment. ◆ Ability to deal with and resolve conflict. ◆ Ability to recognize cost implications within task. ◆ Ability to optimize and quantify the uptime use and minimize and quantify the downtime use of tools. ◆ Ability to identify and solve problems.
I2 Inspect and measure wafers	<ul style="list-style-type: none"> ◆ Wafer is properly held by vacuum and placed under lamp for visual inspection. ◆ Quality of wafer is evaluated. ◆ Wafer is placed in appropriate cassette. 	<ul style="list-style-type: none"> ◆ Ability to operate wafer wands, calipers and surf scan to inspect and measure wafers. ◆ Ability to use metrology tools and defect inspection station. ◆ Knowledge of different wafer defects and ability to classify wafer defects. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to follow procedures to produce desired results. ◆ Ability to pay attention to detail. ◆ Ability to work within a team environment. ◆ Ability to identify types of work-saving techniques. ◆ Ability to deal with and resolve conflict.
I3 Assist in chemical handling/ housekeeping	<ul style="list-style-type: none"> ◆ Flammable (hazardous) materials are handled and stored appropriately. ◆ Appropriate personal protective equipment (PPE) is selected and properly used. ◆ Housekeeping is performed according to company policies and procedures. ◆ Emergency procedures are followed when necessary. 	<ul style="list-style-type: none"> ◆ Ability to select and use appropriate PPE (personal protective equipment). ◆ Knowledge of chemicals and gases consistent with manufacturing. ◆ Knowledge of how to use safety wash and ERT information. ◆ Ability to identify different types of chemical, biological, physical and environmental hazards. ◆ Knowledge of company policies and procedures. ◆ Knowledge of equipment specifications. 	<ul style="list-style-type: none"> ◆ Ability to acquire, store, allocate and use flammable materials safely and efficiently. ◆ Ability to identify different types of chemicals and gases. ◆ Ability to identify potential dangers of mixing chemicals ◆ Ability to interpret emergency procedures.

<p>I4 Clean and replace supply items on equipment as needed</p>	<ul style="list-style-type: none"> ◆ Computer is accessed to locate information. ◆ Appropriate cleaning chemicals are used for specific pieces of equipment. ◆ Equipment is cleaned according to company policies and procedures. ◆ Appropriate personal protective equipment (PPE) is selected and properly used. ◆ Work order is completed according to company procedures. 	<ul style="list-style-type: none"> ◆ Ability to assess parts/inventory via computer. ◆ Knowledge of proper chemical use for equipment parts. ◆ Ability to clean quartz-ware and understand the sensitivity of quartz-ware. ◆ Ability to select and use appropriate PPE (personal protective equipment). ◆ Knowledge of company policies and procedures. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to complete a work order. ◆ Ability to interface with the computer and work with computer forms. ◆ Ability to communicate within an intercultural environment. ◆ Ability to resolve conflict and negotiate solutions with team members.
<p>I5 Operate and control equipment through continuous monitoring</p>	<ul style="list-style-type: none"> ◆ Equipment is operated according to company policies and procedures. ◆ Computer is accessed to locate information. ◆ Appropriate tools are used to optimize equipment while monitoring functionality. ◆ Problems are documented and immediately reported to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Knowledge of equipment specifications. ◆ Knowledge of company policies and procedures. ◆ Ability to demonstrate mechanical skills consistent with equipment. ◆ Ability to operate multiple tools related to equipment. ◆ Knowledge of monitoring tasks. ◆ Knowledge of the theory of constraints. 	<ul style="list-style-type: none"> ◆ Ability to interface with computers. ◆ Ability to use computers to locate information. ◆ Ability to prioritize and organize workload. ◆ Ability to monitor equipment while operating tools (multitask).
<p>I6 Grow, grind and flat crystal</p> <p>(Not an automated task)</p>	<ul style="list-style-type: none"> ◆ Raw silicone is placed into quartz crucible and safely placed in furnace. ◆ Correct customer product number is entered. ◆ Seed crystal is dipped into liquid silicone and monitored for dislocation. ◆ Dislocation is evaluated and economic decision is made. ◆ Tools are safely used to cut and grind crystal according to company procedures. ◆ Crystal is x-rayed to identify location of lattice. ◆ Flat or notch is ground into crystal to describe how crystal structure is lined up. 	<ul style="list-style-type: none"> ◆ Ability to apply and use basic mechanical and electrical skills consistent with the processes. ◆ Ability to understand the processes. ◆ Ability to identify steps within manufacturing processes that determine cost. ◆ Knowledge of metric system consistent with the processes. ◆ Knowledge of molecular structure. ◆ Ability to operate toggle switches. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to understand procedures for setup, use and operation of equipment. ◆ Ability to operate hand tools and equipment in a safe, prescribed manner. ◆ Ability to pay attention to detail. ◆ Ability to work within a team environment. ◆ Ability to read and locate information within technical documents. ◆ Ability to interface with computers. ◆ Ability to deal with and resolve conflict.
<p>I7 Slice, lap, laser-mark and polish wafer</p>	<ul style="list-style-type: none"> ◆ Crystal is safely placed in slicing machine. ◆ Order is properly set-up. ◆ Wafers are pulled and thickness is measured and plotted on SPC chart. ◆ Tools are safely used with wafers according to company procedures. ◆ Periodic checks of wafers are performed during process to assure proper machine functionality. ◆ Crystal is mounted on graphite bar according to appropriate orientation. 	<ul style="list-style-type: none"> ◆ Ability to safely operate equipment and tools. ◆ Ability to understand the processes. ◆ Ability to apply SPC to specific production processes. ◆ Ability to select and use appropriate measurement techniques and instruments. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to apply appropriate rules and principles. ◆ Ability to identify need for data, obtain and evaluate data. ◆ Ability to acquire, store, allocate and use materials efficiently. ◆ Ability to prevent, identify or solve problems. ◆ Ability to interface with computers.

<p>I8 Perform wet/dry etch</p>	<ul style="list-style-type: none"> ◆ Crystal is safely loaded. ◆ Quality assurance checks are regularly performed. ◆ Baths are safely loaded with acids, caustic solutions, when needed. ◆ Wet/Dry etch is performed according to company procedures. 	<ul style="list-style-type: none"> ◆ Ability to apply and use basic mechanical and electrical skills consistent with the processes. ◆ Ability to understand etching processes. ◆ Ability to identify steps within manufacturing processes that determine cost. ◆ Knowledge of metric system consistent with the processes. ◆ Knowledge of molecular structure. ◆ Ability to use metrology tools. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to understand procedures for setup, use and operation of equipment. ◆ Ability to operate hand tools and equipment in a safe, prescribed manner. ◆ Ability to interpret handle and store flammable (hazardous) materials appropriately. ◆ Ability to read and locate information within technical documents. ◆ Ability to interface with computers.
<p>I9 Perform deposition of film on wafer</p>	<ul style="list-style-type: none"> ◆ Deposition is performed according to company policies and procedures. ◆ Equipment is properly setup and used. ◆ Hand tools and equipment are operated in a safe, prescribed manner. ◆ Flammable materials are handled appropriately. 	<ul style="list-style-type: none"> ◆ Ability to apply and use basic mechanical and electrical skills consistent with the process. ◆ Ability to understand the process. ◆ Ability to identify steps within manufacturing process that determine cost. ◆ Knowledge of metric system consistent with the process. ◆ Knowledge of molecular structure. ◆ Ability to operate toggle switches. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to understand procedures for setup, use and operation of equipment. ◆ Ability to operate hand tools and equipment in a safe, prescribed manner. ◆ Ability to handle and store flammable (hazardous) materials appropriately. ◆ Ability to read and locate information within technical documents. ◆ Ability to interface with computers. ◆ Ability to work within a team environment. ◆ Ability to deal with and resolve conflict.
<p>I10 Test end product</p>	<ul style="list-style-type: none"> ◆ Testing is performed according to company policies and procedures. ◆ Procedures are performed within a team environment. ◆ Appropriate tools are selected and used. ◆ Defects are identified and classified. ◆ Process is documented. 	<ul style="list-style-type: none"> ◆ Ability to operate tools to test product. ◆ Ability to understand process. ◆ Ability to use metrology tools. ◆ Knowledge of different defects and ability to classify defects. ◆ Knowledge of company policies and procedures. 	<ul style="list-style-type: none"> ◆ Ability to follow procedures to produce desired results. ◆ Ability to pay attention to detail. ◆ Ability to work within a team environment. ◆ Ability to identify types of work-saving techniques. ◆ Ability to deal with and resolve conflict.

Occupation Cluster: Manufacturing Technician
Function or Job Duty: J – Perform Administrative Duties

TASK	Performance Criteria <i>How do we know when the task is performed well?</i>	Technical Knowledge Skills, Abilities, Tools	SCANS <i>Foundation/Personal Qualities</i>
J1 Collect and report on experimental data	<ul style="list-style-type: none"> ◆ Interrogative interactive dialogue is performed with team members to obtain accurate data. ◆ Data is analyzed, organized and keyed into appropriate forms and templates. ◆ Report is produced conforming to company policy and is presented to appropriate personnel. 	<ul style="list-style-type: none"> ◆ Knowledge of process product. ◆ Knowledge of equipment. ◆ Ability to understand process. ◆ Knowledge of the design of the experiments. ◆ Knowledge of company policies and procedures. ◆ Ability to use specific word processing, database, and Internet software applications. 	<ul style="list-style-type: none"> ◆ Ability to utilize scientific notations, metrics, speed-related measurement tools, ratios, and technical math. ◆ Ability to demonstrate intercultural communication skills. ◆ Ability to collect and analyze data. ◆ Ability to communicate thoughts and ideas in writing. ◆ Ability to present accurate information to internal customers and/or management. ◆ Ability to key correct data input into templates/forms.
J2 Maintain quality records	<ul style="list-style-type: none"> ◆ Records are maintained according to customer and company documentation requirements. ◆ Correct information is keyed into or legibly recorded in appropriate forms and templates. 	<ul style="list-style-type: none"> ◆ Knowledge of customer and company documentation requirements. ◆ Knowledge of document storage and retrieval tools. ◆ Ability to use specific word processing, database, and Internet software applications. ◆ Knowledge of company forms and paperwork procedures. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to prepare legible documents. ◆ Ability to interface with computers. ◆ Ability to operate within organizational system. ◆ Ability to communicate thoughts and ideas in writing. ◆ Ability to key correct data input into templates/forms.
J3 Prepare purchase requests, work requests and reports	<ul style="list-style-type: none"> ◆ Requests are correctly prepared according to company procedures. ◆ Information is accurate and complete. ◆ Information is keyed into or legibly recorded in appropriate forms and templates. ◆ Requests are presented to appropriate personnel for approval. 	<ul style="list-style-type: none"> ◆ Knowledge of company policies and procedures. ◆ Knowledge of company production processes. ◆ Knowledge of equipment and tools. ◆ Ability to use specific word processing, database, and Internet software applications. ◆ Knowledge of company forms and paperwork procedures. 	<ul style="list-style-type: none"> ◆ Ability to monitor efficient and effective use of materials and tools. ◆ Ability to interface with computers. ◆ Ability to communicate thoughts and ideas in writing. ◆ Ability to present accurate information to internal customers and/or management. ◆ Ability to key correct data input into templates/forms.
J4 Maintain accurate records and logs of modifications, calibrations and adjustments	<ul style="list-style-type: none"> ◆ Documentation is accurate, clear and concise. ◆ Information is keyed into or legibly recorded in appropriate forms and templates. ◆ Records accurately reflect the intent of their purpose. 	<ul style="list-style-type: none"> ◆ Knowledge of customer and company documentation requirements. ◆ Knowledge of document storage and retrieval tools. ◆ Ability to use specific word processing, database, and Internet software applications. ◆ Knowledge of company forms and paperwork procedures. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to utilize scientific notations, metrics, speed-related measurement tools, ratios, and technical math. ◆ Ability to interface with computers. ◆ Ability to analyze information and recommend adjustments. ◆ Ability to key correct data input into templates/forms.

<p>J5 Perform communication at time of shift change</p>	<ul style="list-style-type: none"> ◆ Communication is accurate, clear and concise. ◆ Communication reflects the intent of its purpose. ◆ Communication is complete and performed in a timely manner. 	<ul style="list-style-type: none"> ◆ Knowledge of company policies and procedures. ◆ Ability to understand company processes, tools and equipment. ◆ Ability to communicate accurate and thorough process information to coworkers and/or management. ◆ Understanding of WIP. ◆ Ability to use specific word processing, database, and Internet software applications. ◆ Knowledge of company forms and paperwork procedures. 	<ul style="list-style-type: none"> ◆ Ability to utilize scientific notations, metrics, speed-related measurement tools, ratios, and technical math. ◆ Ability to demonstrate intercultural communication skills. ◆ Ability to communicate thoughts and ideas in writing. ◆ Ability to interface with computers. ◆ Ability to perform tasks in a timely manner.
<p>J6 Assist in team development and performance reviews</p>	<ul style="list-style-type: none"> ◆ Strengths of team members are identified and utilized. ◆ Differences in opinions and cultures are respected. ◆ Conflict is appropriately managed and/or resolved. ◆ Interrogative interactive dialogue is performed. ◆ Consensus is achieved when necessary. 	<ul style="list-style-type: none"> ◆ Knowledge of different learning styles. ◆ Knowledge of learning requirements for certification. ◆ Knowledge of company review policies. ◆ Knowledge of team process within company. ◆ Knowledge of industry terminology and concepts. 	<ul style="list-style-type: none"> ◆ Ability to listen to others. ◆ Ability to speak clearly and concisely. ◆ Ability to sequentially organize and write information. ◆ Ability to deal with and resolve conflict.
<p>J7 Record process data such as flow rates and parts changes</p>	<ul style="list-style-type: none"> ◆ Communication is accurate, clear and concise. ◆ Communication reflects the intent of its purpose. ◆ Communication is complete and performed in a timely manner. 	<ul style="list-style-type: none"> ◆ Knowledge of engineering data collection forms (charts). ◆ Ability to use specific word processing, database, and Internet software applications. ◆ Ability to obtain information relevant to process. ◆ Knowledge of SPC calculations and procedures. ◆ Knowledge of company forms and paperwork procedures. ◆ Ability to make a decision based on factual data and company procedures. 	<ul style="list-style-type: none"> ◆ Ability to interface with computers. ◆ Ability to understand mathematical ranges, targets and concepts. ◆ Ability to listen to others and communicate within an intercultural environment. ◆ Ability to perform mathematical calculations for SPC and understand statistical concepts. ◆ Ability to analyze information.