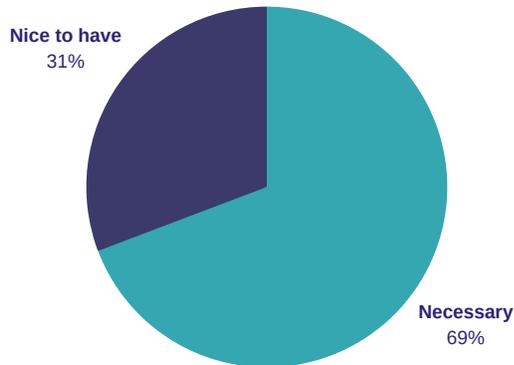


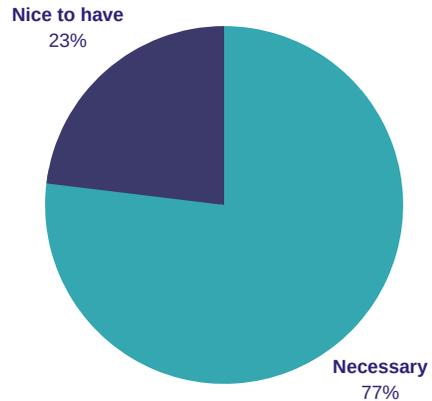
Employability Skills Survey Results

Manufacturing & Engineering

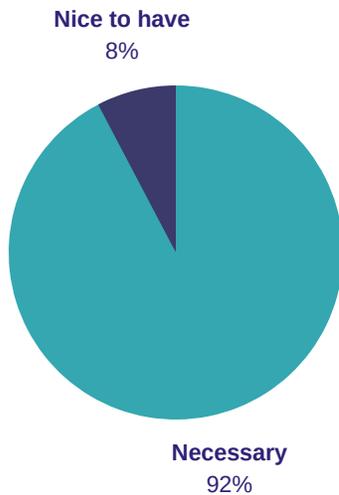
Identify barriers to accurate and appropriate communication.



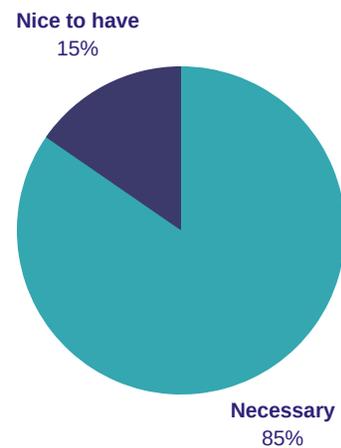
Interpret verbal and nonverbal communications and respond appropriately.



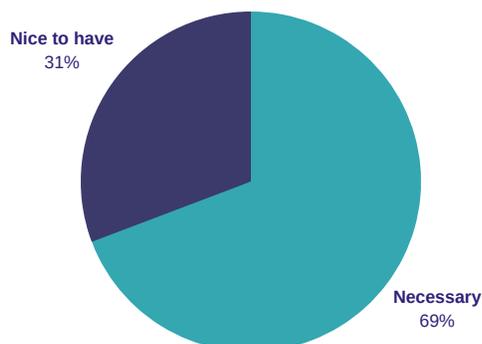
Communicate information and ideas effectively to customers and coworkers.



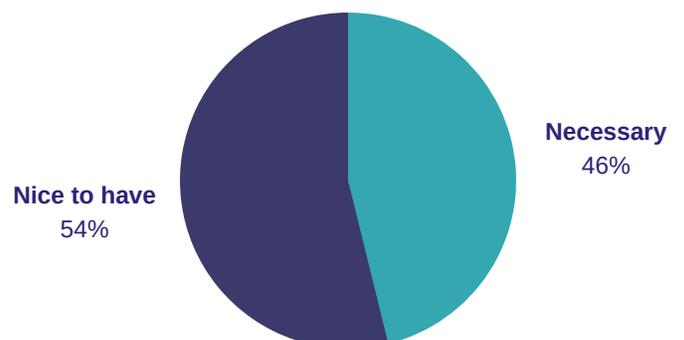
Identify and ask significant questions that clarify various points of view to solve problems.



Solve predictable and unpredictable work-related problems using various types of reasoning as appropriate.



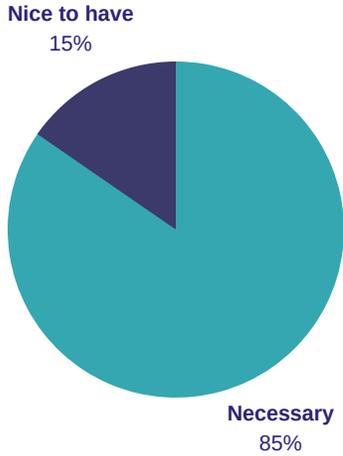
Use systems thinking to analyze how various components interact with each other to produce outcomes in a complex work environment.



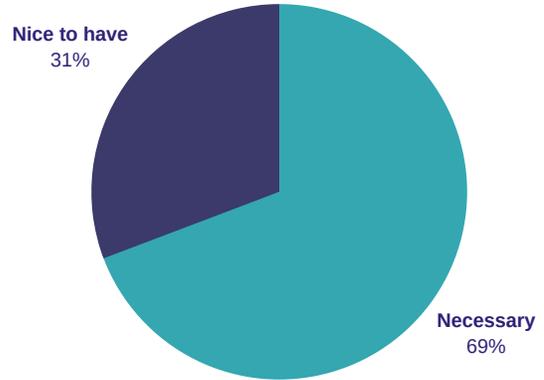
Employability Skills Survey Results

Manufacturing & Engineering

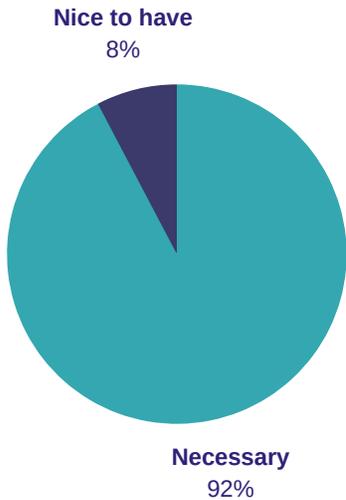
Interpret information and draw conclusions, based on the best analysis, to make informed decisions.



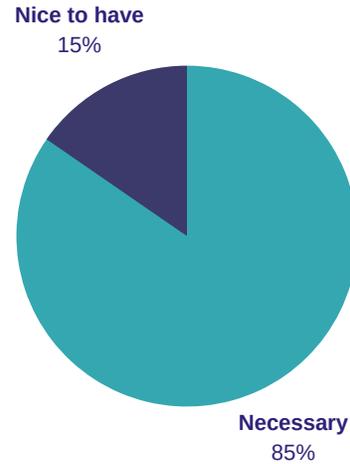
Locate, and adhere to, Material Safety Data Sheet (MSDS) instructions.



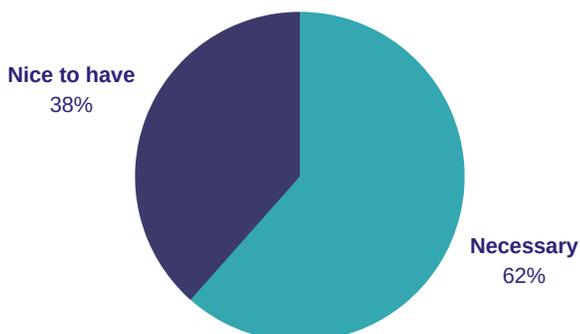
Interpret policies, procedures, and regulations for the workplace environment.



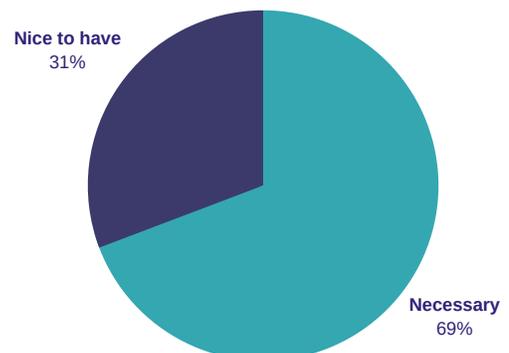
Use health and safety practices for storing, cleaning, and maintaining tools, equipment, and supplies.



Explain the importance of accountability and responsibility in fulfilling workplace roles.



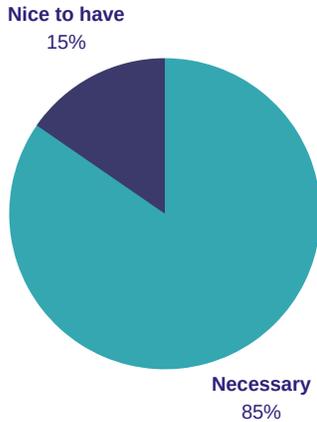
Demonstrate how to prevent and respond to work-related accidents or injuries.



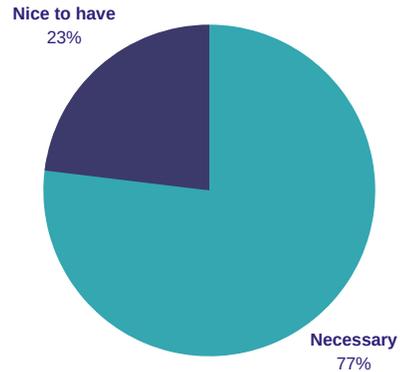
Employability Skills Survey Results

Manufacturing & Engineering

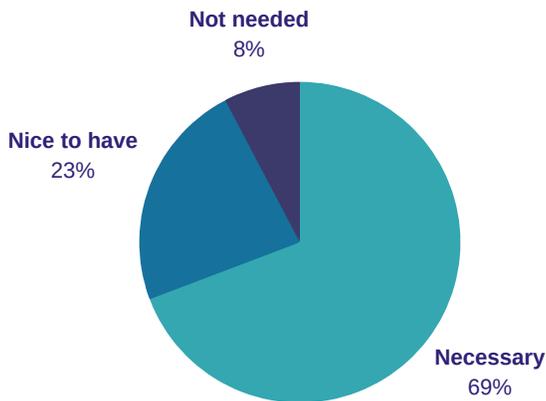
Practice time management and efficiency to fulfill responsibilities.



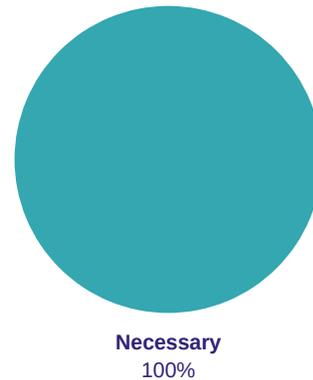
Demonstrate the qualities and behaviors that constitute a positive and professional work demeanor, including appropriate attire for the profession.



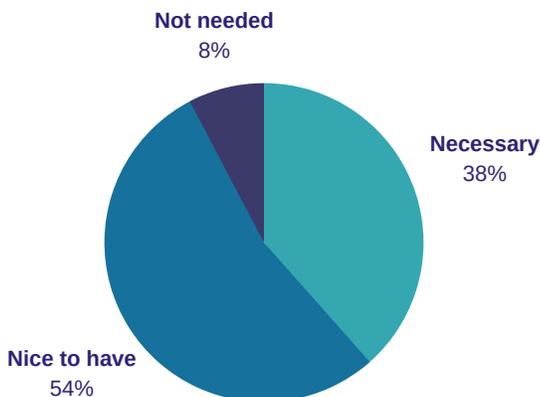
Access, analyze, and implement quality assurance standards of practice.



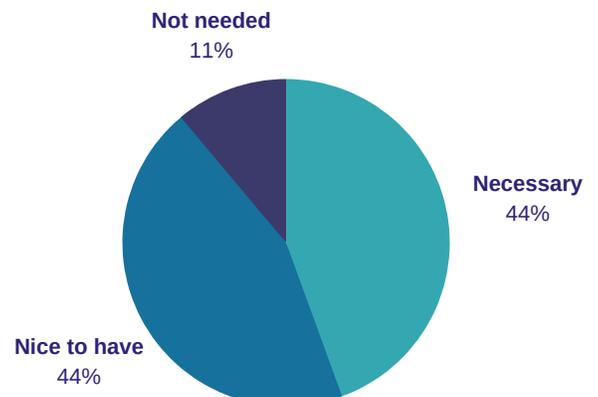
Demonstrate ethical and legal practices consistent with Manufacturing sector workplace standards.



Identify the characteristics of successful teams, including leadership, cooperation, collaboration, and effective decision-making skills.



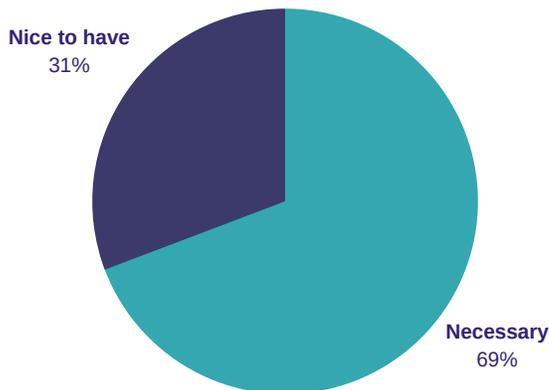
Understand the characteristics and benefits of teamwork, leadership, and citizenship in the workplace setting.



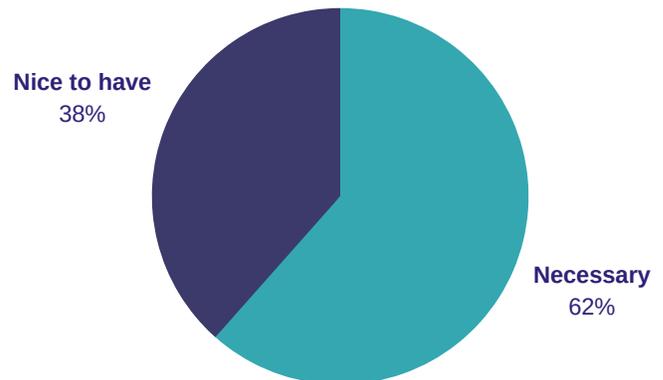
Employability Skills Survey Results

Manufacturing & Engineering

Respect individual and cultural differences and recognize the importance of diversity in the workplace.



Explain the importance of accountability and responsibility in fulfilling workplace roles.



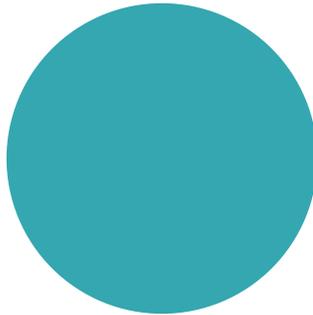
Pathway Skills Additional Comments

- It is critical that we provide students with work credentials for any kind of skills training implemented to ensure technical skills.
- Show up on time and as scheduled.
- Automation Skill sets including the understanding of (PLC) Programmable Logic Controllers programming language and ladder diagrams. Robotic programming for material handling applications.
- Labor skills - use of tools in a shop, etc.
- Show up on time and work hard.
- Have a safe work environment.
- Be aware of technology trends that are currently occurring by reading topic related material or news sources.

Employability Skills Survey Results

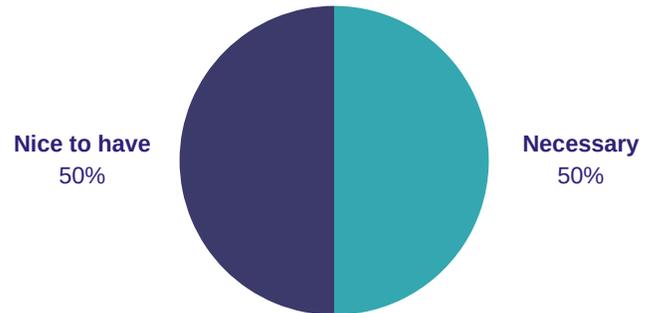
Product Innovation and Design

Understand the basic product design and development process as it relates to the design of a product, line of products, system design, or services.



Necessary
100%

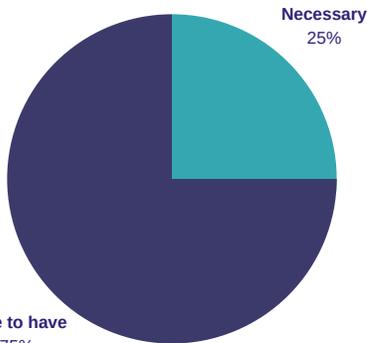
Understand and apply research methodologies as a means to identify a need, problem, or opportunity for a new product, product line, system design, or service.



Nice to have
50%

Necessary
50%

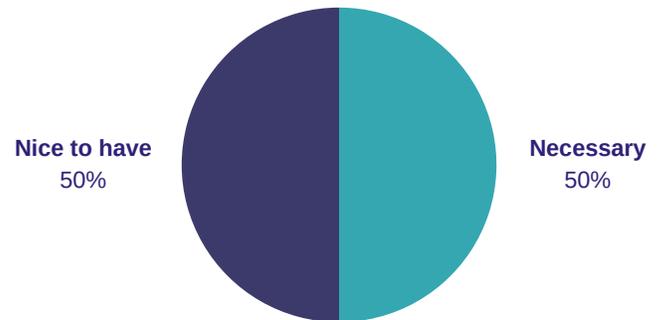
Understand and apply various ideation techniques to develop ideas and concepts.



Nice to have
75%

Necessary
25%

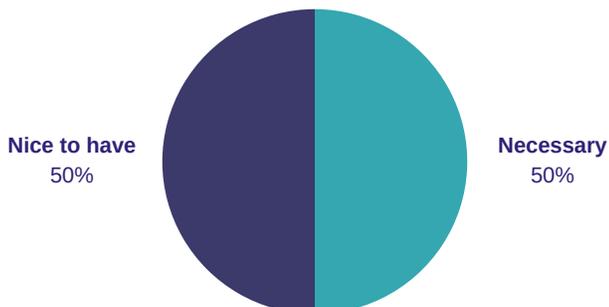
Apply various two-dimensional (2-D) graphic and/or three-dimensional (3-D) modeling techniques to development concept.



Nice to have
50%

Necessary
50%

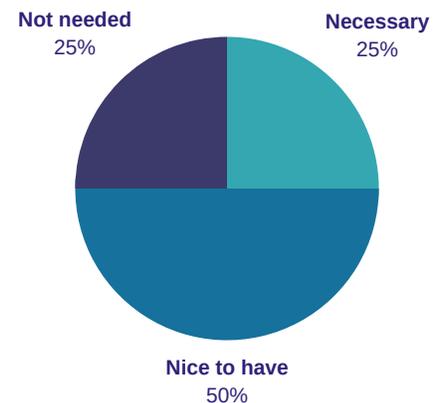
Develop the concept into a well-defined product for prototyping.



Nice to have
50%

Necessary
50%

Produce a prototype of a product.



Not needed
25%

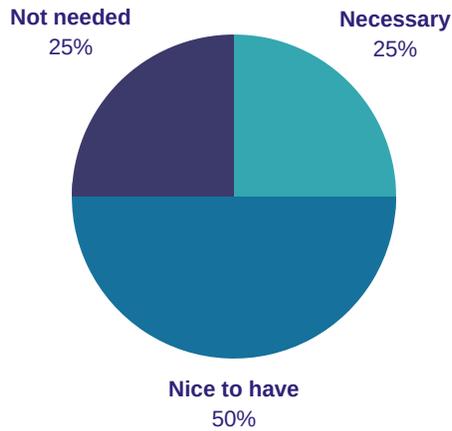
Necessary
25%

Nice to have
50%

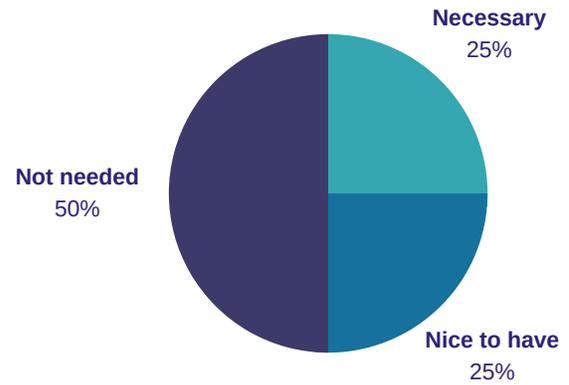
Employability Skills Survey Results

Product Innovation and Design

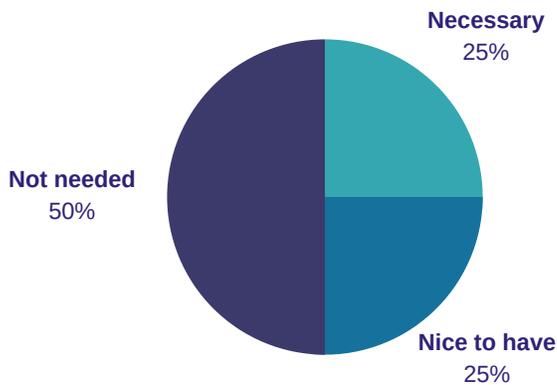
Evaluate the prototype to determine if it meets the requirements and objectives.



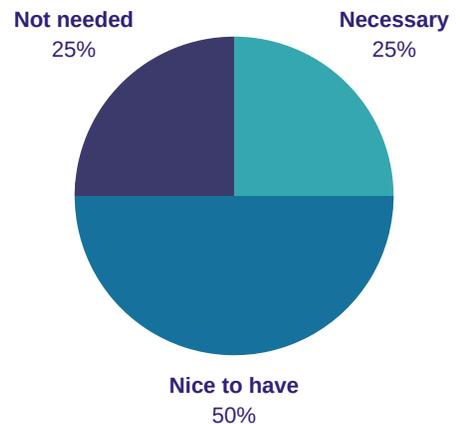
Understand and apply basic business and entrepreneurial principles and identify potential markets and/or other business opportunities for distribution of the product.



Produce a package design concept for a product or line of products.



Produce a presentation of the product, product line, system design, or service.



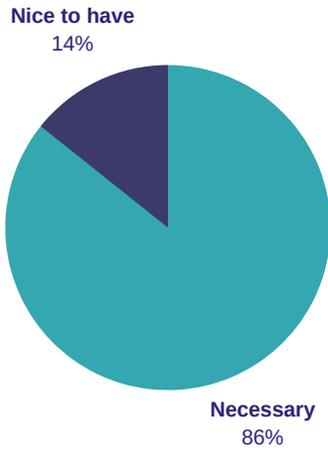
Additional Comments

- Always be on time.

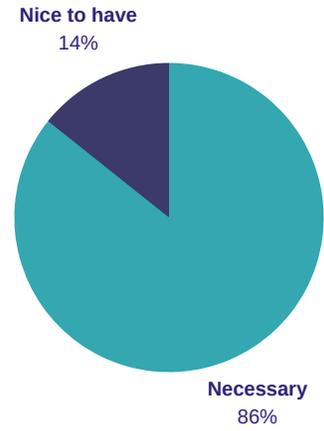
Employability Skills Survey Results

Machining and Forming Technologies

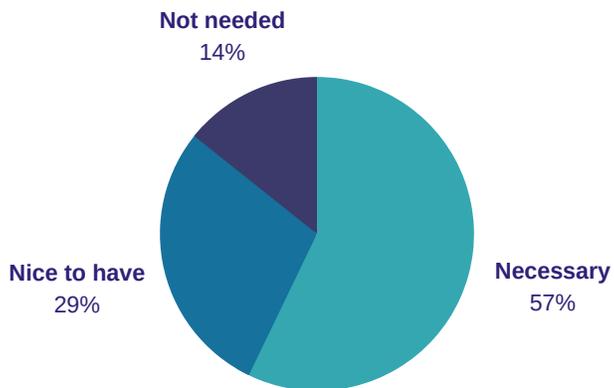
Validate that a provided part meets specifications from its engineering drawing.



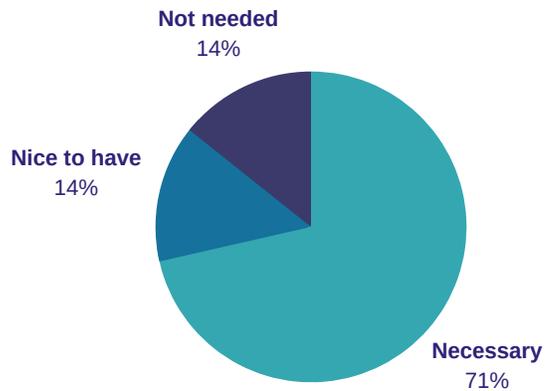
Describe and layout a project according to specifications or engineering drawings.



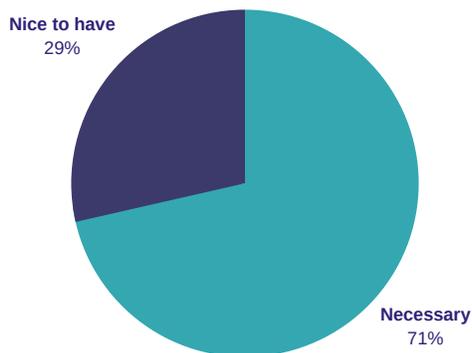
Research and compare the properties of two metals using two different material specifications and a process specification.



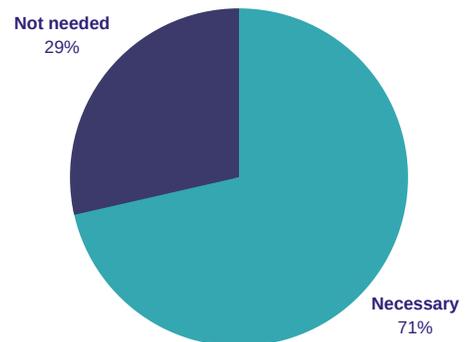
Demonstrate a cutoff saw operation(s) to produce a length of bar stock to specification.



Demonstrate bending, shaping, other metal forming, and fabrication techniques, to achieve a specific design specification.



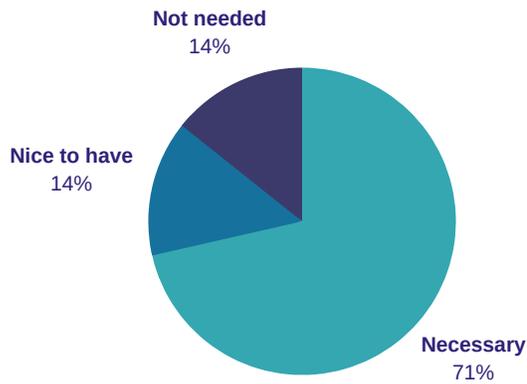
Identify and select the right grinding wheel; perform wheel dressing; and grind the provided part/material to the size and surface finish specifications provided.



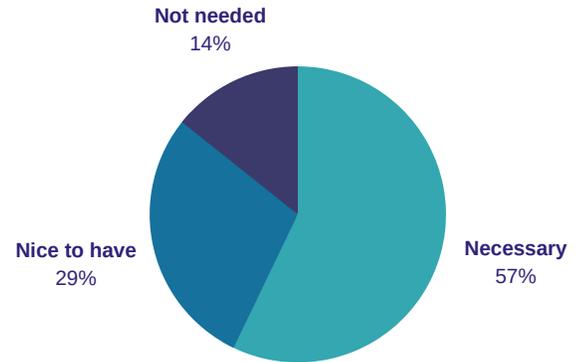
Employability Skills Survey Results

Machining and Forming Technologies

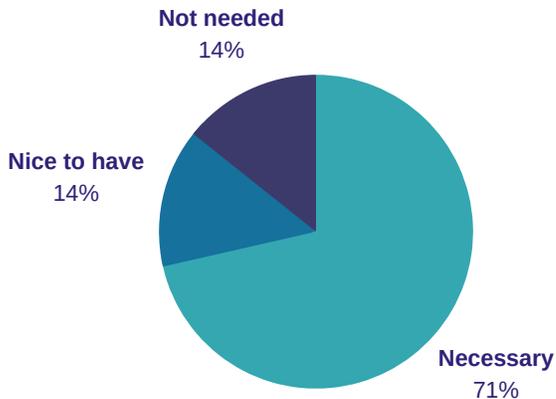
Perform a series of routine boring operations from a set of specifications or a drawing & explain the selection of proper tools for each step of the process.



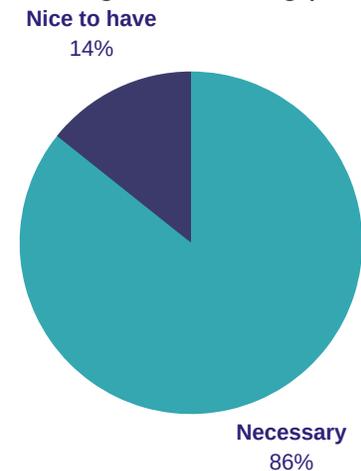
Produce parts to specification using a boring head or angular cutting with a sine bar, a keyway, & pockets with a typical vertical mill.



Produce parts to specifications or drawings provided on a computer numerical controlled (CNC) mill or lathe.



Understand and defend the purposes and processes of inspection and quality control in machining and forming processes.



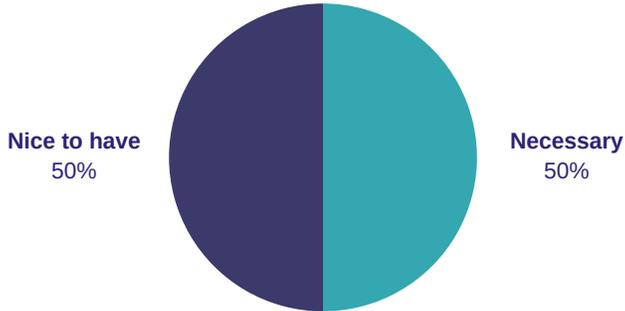
Additional Comments

- Must have operator skills on an Industrial Control Panel. Typically a FANUC Model F CNC control panel.

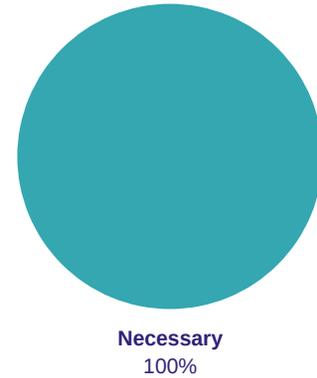
Employability Skills Survey Results

Welding and Materials Joining

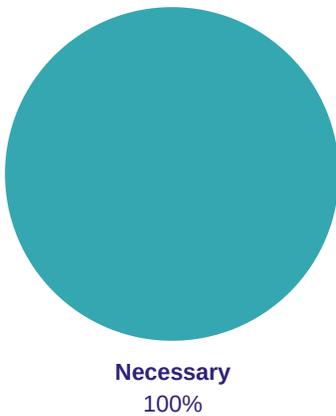
Interpret and demonstrate the planning and layout operations used in the welding processes.



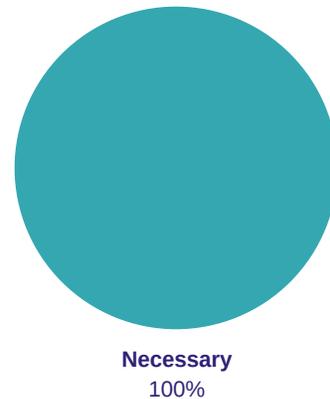
Understand and demonstrate how materials can be processed through the use of welding tools and equipment.



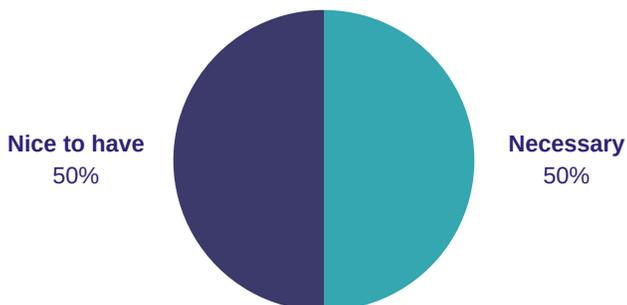
Differentiate and apply various types of welding assembly processes.



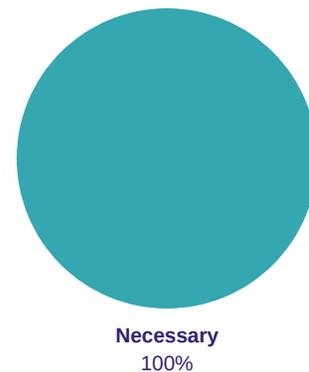
Understand finishing processes and the differences between various types of finishing materials used in the manufacture of welded parts and products.



Understand and defend the purposes and processes of inspection and quality control in welding manufacturing processes.



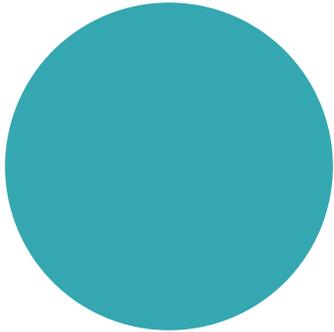
Explore and understand various welding systems that require standard hand and machine tools.



Employability Skills Survey Results

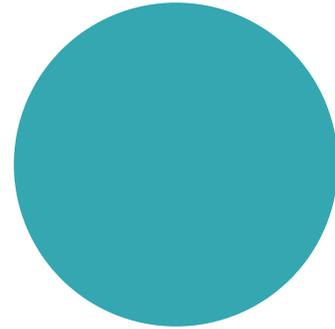
Welding and Materials Joining

Understand various automated welding systems, welding design for manufacturing, flexible manufacturing systems, and materials resource planning.



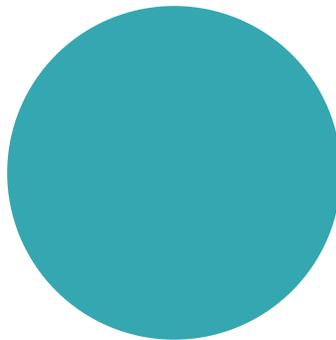
Nice to have
100%

Understand various joining or combining processes, including welding processes used in manufacturing, maintenance, and repair.



Necessary
100%

Understand how a manufacturing company is organized and the elements of welding production management.



Nice to have
100%

Additional Comments

- Welders must be certified and understand the welding code requirements for the industry they work for. For example, if the student wants to pursue a career welding in aerospace company, then he needs to be skilled to the requirements of the Aerospace welding code, and should be familiar with the requirements of the welding code for production welding .
- Understand safety when welding and understand how flash burn can affect your eyes