



### Process

Procedures that contribute to the more rapid acquisition of knowledge and skill across a variety of domains.

Skill	Description	Rating
Active Learning	Ability to think, discuss, investigate, and create	4
Complex Problem Solving	Review information to develop options/solutions	2
Critical Thinking	Self-guided thinking to analyze information	4
Learning Strategies	Use instructional methods when learning new things	3
Monitoring	Self-monitor your work to make improvements	4

# ADVANCED WELDING FABRICATION TECHNOLOGY AWFT ESSENTIAL SKILLS

1=Not Essential 0-25%   2=Slightly Essential 26-50%   3=Essential 51-75%   4=Very Essential 76-100%



### Cognitive Ability

Abilities that influence the learning and implementation of knowledge in problem solving.

Skill	Description	Rating
Attentiveness	Paying close attention to detail	4
Category Flexibility	Generate rules to group things in different ways	4
Deductive Reasoning	Using general rules to reach a specific conclusion	4
Flexibility of Closure	Ability to detect a known pattern that is hidden	4
Fluency of Ideas	Brainstorm several ideas for a topic	2
Inductive Reasoning	Drawing conclusions from information and experiences	2
Information Ordering	Arrange things in patterns using a set of rules	3
Mathematical Reasoning	Choose the right formula to solve a problem	2
Memorization	Recall what information is needed	1
Number Facility	Add, subtract, multiply and divide accurately	4
Oral Comprehension	Ability to listen and understand spoken ideas	4
Oral Expression	Effectively communicate through spoken words	3
Originality	Ability to come up with clever ideas	2
Perceptual Abilities	Interpret information using hearing and vision	4
Perceptual Speed	Quickly compare differences/similarities of information	3
Problem Sensitivity	Recognize if something is wrong or will go wrong	3
Reasoning Ability	Think logically to make decisions from evidence	4
Selective Attention	Concentrate on a task for a length of time	4
Spatial Orientation	Know where objects are in relation to you	4
Speed of Closure	Quickly review information and put in meaningful patterns	3
Time Sharing	Ability to shift back and forth between activities	2
Visualization	Creating mental image or picture in your head	4
Written Comprehension	Make sense of information presented in writing	3
Written Expression	Communicate ideas through writing	2



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### Physical Ability

Abilities that influence strength, endurance, flexibility, balance and coordination.

Skill	Description	Rating
Dynamic Flexibility	Move joints and muscles through full range of motion	4
Dynamic Strength	Exert force repeatedly over time	4
Endurance	Exert oneself without getting out of breath	4
Explosive Strength	Exert maximum force in the least amount of time	4
Extent Flexibility	Maximum range of motion possible for joints	4
Gross Body Coordination	Move your arms, legs and torso together smoothly	4
Gross Body Equilibrium	Hold balance/upright posture when unstable	4
Stamina	Energy and strength to endure physical activity	4
Static Strength	Hold a position against resistance without moving	4
Trunk Strength	Use abdominal and low back to support body	4



### Psychomotor Abilities

Abilities that influence the capacity to manipulate and control objects. This includes fine & Large movements and response times.

Skill	Description	Rating
Arm-hand Steadiness	Keep arm/hand steady in one position	4
Control Precision	Quickly adjust controls to a machine/vehicle	4
Finger Dexterity	Precisely coordinated movement for small parts	4
Manual Dexterity	Use hands to precisely manipulate objects	4
Multi-limb Coordination	Coordinate multiple limbs at the same time	4
Rate Control	Time movement with equipment for speed/direction	4
Reaction Time	Quick movement to respond to a signal	4
Response Orientation	Quickly choose appropriate reaction to signals	4
Speed of Limb Movement	Quickly move arms and legs	4
Wrist-Finger Speed	Fast repetitive movements with fingers/hand/wrist	4



### Sensory Abilities

Abilities that influence visual, auditory and speech perception.

Skill	Description	Rating
Auditory Attention	Focus on a sound with other distracting noises	4
Depth Perception	See 3 dimension include size and how far away	4
Far Vision	See details at a distance	4
Glare Sensitivity	See objects if there is a glare or bright light	4
Hearing Sensitivity	Detect sounds with different pitch/loudness	4
Near Vision	See details at close range	4
Night Vision	See under low light conditions	4
Peripheral Vision	See to one's side without moving your head	4
Sound Localization	Tell where a sound originates	4
Speech Clarity	Speak so others can understand	3
Speech Recognition	Identify/understand the speech of others	3
Visual Color Discrimination	Detect difference between color shades/brightness	4



### Content

Background structures needed to work with and acquire more specific skills in a variety of different domains.

Skill	Description	Rating
Active Listening	Full attention to what others are saying	4
Mathematics	Use math skills to problem solve	4
Reading Comprehension	Understand exact meaning from written text	3
Science	Scientific rules/methods to problem solve	3
Speaking	Talking to convey information to others	3
Writing	Effectively communicate for the needs of audience	2