



### 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	4
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

# MECHANICAL ENGINEERING TECHNOLOGY MET ESSENTIAL SKILLS

MET

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	3
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	4
Inductive Reasoning	Drawing conclusions from information and experiences	4
Information Ordering	Arrange things in patterns using a set of rules	4
Mathematical Reasoning	Choose the right formula to solve a problem	4
Memorization	Recall what information is needed	3
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	4
Perceptual Abilities	Interpret information using hearing and vision	2
Perceptual Speed	Quickly compare differences/similarities of information	3
Problem Sensitivity	Recognize if something is wrong or will go wrong	4
Reasoning Ability	Think logically to make decisions from evidence	4
Selective Attention	Concentrate on a task for a length of time	3
Spatial Orientation	Know where objects are in relation to you	2
Speed of Closure	Quickly review information and put in meaningful patterns	3
Time Sharing	Ability to shift back and forth between activities	3
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	4



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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	2
Dynamic Strength	Exert force repeatedly over time	2
Endurance	Exert oneself without getting out of breath	1
Explosive Strength	Exert maximum force in the least amount of time	1
Extent Flexibility	Maximum range of motion possible for joints	2
Gross Body Coordination	Move your arms, legs and torso together smoothly	2
Gross Body Equilibrium	Hold balance/upright posture when unstable	2
Stamina	Energy and strength to endure physical activity	1
Static Strength	Hold a position against resistance without moving	3
Trunk Strength	Use abdominal and low back to support body	2



### 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	3
Control Precision	Quickly adjust controls to a machine/vehicle	3
Finger Dexterity	Precisely coordinated movement for small parts	3
Manual Dexterity	Use hands to precisely manipulate objects	3
Multi-limb Coordination	Coordinate multiple limbs at the same time	3
Rate Control	Time movement with equipment for speed/direction	3
Reaction Time	Quick movement to respond to a signal	3
Response Orientation	Quickly choose appropriate reaction to signals	2
Speed of Limb Movement	Quickly move arms and legs	2
Wrist-Finger Speed	Fast repetitive movements with fingers/hand/wrist	3



### Sensory Abilities

Abilities that influence visual, auditory and speech perception.

Skill	Description	Rating
Auditory Attention	Focus on a sound with other distracting noises	2
Depth Perception	See 3 dimension include size and how far away	2
Far Vision	See details at a distance	3
Glare Sensitivity	See objects if there is a glare or bright light	1
Hearing Sensitivity	Detect sounds with different pitch/loudness	3
Near Vision	See details at close range	4
Night Vision	See under low light conditions	1
Peripheral Vision	See to one's side without moving your head	3
Sound Localization	Tell where a sound originates	3
Speech Clarity	Speak so others can understand	3
Speech Recognition	Identify/understand the speech of others	4
Visual Color Discrimination	Detect difference between color shades/brightness	3



### 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	4
Science	Scientific rules/methods to problem solve	4
Speaking	Talking to convey information to others	3
Writing	Effectively communicate for the needs of audience	4