

MANUFACTURING TECHNOLOGY (MTAG) COMPETENCY CORRELATION WITH WASHINGTON'S ESSENTIAL ACADEMIC LEARNING REQUIREMENTS (Revised 2017)

| Category ID | Specific Competency ID | Specific Competency Statement | GOAL 1 | | | | | | | | | | | | | | | | GOAL 2 | | | | | GOAL 3 | | | | GOAL 4 | | |
|-----------------------------------|------------------------|-------------------------------|---|--|--|--|---|----------------------------------|---|---|---|--|--|--|-------------|--|---|-------------------------------|---|--|---------|---|----------------|--|--|--------------------|--|----------|---|-----------------|
| | | | READING | Understanding and using different skills and strategies to read. | Understanding the meaning of what is read. | Reading different materials for a variety of purposes. | Setting goals and evaluating progress to improve reading. | Writing clearly and effectively. | Writing in a variety of forms for different audiences and purposes. | Understanding and evaluating the effectiveness of written work. | Communicating through listening and observation skills to gain understanding. | Communicating ideas clearly and effectively. | Using communication strategies and skills to work effectively with others. | Analyzing and evaluating the effectiveness of formal and informal communication. | Mathematics | Understanding and applying the concepts and procedures of mathematics. | Using mathematics to define and solve problems. | Using mathematical reasoning. | Communicating knowledge and understanding in both everyday and mathematical language. | Understanding how mathematical ideas connect to other subject areas, real-life situations, and career goals. | Science | The student understands how science knowledge and skills are connected to other subject areas and real-life situations. | Social Studies | Understanding basic economic concepts and analyzing the effect of economic systems on individuals, groups and society. | The student understands the rights and responsibilities of citizenship and the principles of democratic civic involvement. | Health and Fitness | The student analyzes and evaluates the impact of real-life influences on health. | Thinking | Thinking analytically, logically, and creatively. | Problem Solving |
| EALR Reference # | | | R10 | R20 | R30 | R40 | W10 | W20 | W30 | W40 | C10 | C20 | C30 | C40 | M10 | M20 | M30 | M40 | M50 | S0 | EC10 | CV40 | HF30 | T10 | PS10 | SW10 | | | | |
| Group Dynamics and Communications | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | 1 | 1 | Identify the principles and skills of good teamwork. | | | | | | | | X | | | X | | | | | | | | | | | | | | X | X | |
| A | 1 | 2 | Demonstrate skills of good teamwork. | | | | | | | | X | | | | | | | | | | | | | | | | | X | X | |
| A | 1 | 3 | Recognize the difference between a team environment workplace and a conventional workplace. | | | | | | | | | | | | | | | | | | | | | | | | | X | X | |
| A | 2 | 1 | Identify interpersonal characteristics of a team player. | | | | | | | | X | | | X | | | | | | | | | | | | | | X | X | |
| A | 2 | 2 | Demonstrate the characteristics of a team player. | | | | | | | | X | | | X | | | | | | | | | | | | | | X | X | |
| A | 2 | 3 | Contrast the role of a team with the role of an individual. | | | | | | | | X | | | X | | | | | | | | | | | | | | X | X | |
| A | 3 | 1 | Identify good personal ethical characteristics and behaviors. | | | | | | | | | | | | | | | | | | | | | | | | | X | X | |
| A | 3 | 2 | Demonstrate good personal ethics. | | | | | | | | | | | | | | | | | | | | X | | | | | X | X | |
| A | 3 | 3 | Identify good ethical business behavior. | | | | | | | | | | | | | | | | | | | X | | | | | | X | X | |
| A | 3 | 4 | Differentiate between good and poor business ethic practices. | | | | | | | | | | | | | | | | | | | X | | | | | | X | X | |
| A | 4 | 1 | Match employee responsibilities to employer expectations. | | | | | | | | | | | | | | | | | | | | | | | | | X | X | |
| A | 4 | 2 | Match employer responsibilities to employee expectations. | | | | | | | | | | | | | | | | | | | | | | | | | X | X | |
| A | 5 | 1 | Define discrimination, harassment, and equality. | | | | | | | X | | X | | | | | | | | | | | | | | | | X | X | |
| A | 5 | 2 | Demonstrate non-discriminatory behavior. | | | | | | | X | | X | | X | | | | | | | | | | | | | | X | X | |
| A | 6 | 1 | Explain the value of applying a problem-solving system. | | | | | | | | X | | X | | | | | | | | | | | | | | X | X | X | X |
| A | 6 | 2 | Apply a system of problem-solving. | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | X |
| A | 6 | 3 | Identify opportunities for applying problem-solving techniques. | | | | | | | | | X | X | X | X | | | | | | | | | | | | X | X | X | X |
| A | 7 | 1 | Distinguish between the roles of a team member and team leader. | | | | | | | | | X | | | X | | | | | | | | | | | | | X | X | X |
| A | 7 | 2 | Perform techniques used as a team member. | | | | | | | | | X | X | X | X | | | | | | | | | | | | | X | X | X |
| A | 7 | 3 | Perform techniques used as a team leader. | | | | | | | | | X | X | X | X | X | | | | | | | | | | | | X | X | X |
| A | 8 | 1 | Define organizational structures. | | | | | | | X | | X | | X | | | | | | | | X | | | | | | X | X | X |
| A | 8 | 2 | Explain how specific organizational structures affect a manufacturing process. | | | | | | | X | | X | | X | | | | | | | | | | | | | | X | X | X |
| A | 8 | 3 | Justify the use of specific organizational structures in manufacturing. | | | | | | | | | X | | X | | | | | | | | | | | X | X | | X | X | X |
| A | 9 | 1 | Identify the characteristics of a diverse work force. | | | | | | | | | X | | X | | | | | | | | | | | | | | X | X | X |
| A | 9 | 2 | Apply group dynamic principles to manufacturing situations. | | | | | | | | | X | X | X | X | X | | | | | | | | | | | | X | X | X |
| A | 9 | 3 | Communicate beyond the work group. | | | | | | | X | X | X | X | X | X | X | | | | | | | | | | | | X | X | X |
| A | 9 | 4 | Identify and plan for work group human resource requirements. | | | | | | | X | X | X | X | X | | | | | | | | | | | | | X | X | X | X |
| A | 10 | 1 | Explain organizational influences on manufacturing processes. | | | | | | | X | | X | | X | | | | | | | | | | | | | | X | X | X |
| A | 11 | 1 | Define line and staff organizational structures. | | | | | | | X | X | X | | X | | | | | | | | | | | | | | X | X | X |
| A | 12 | 1 | Identify possible electronic communications uses. | | | | | | | | | X | | | | | | | | | | | | | | | | X | X | X |
| A | 12 | 2 | Explain the effect of electronic communications versus other communication methods. | | | | | | | X | X | X | | X | | | | | | X | X | | | | | | | X | X | X |
| A | 12 | 3 | Select appropriate communication methods. | | | | | | | X | X | | X | | X | X | X | | | | | | | | | | | X | X | X |
| A | 13 | 1 | List the characteristics of a good group leader. | | | | | | | X | X | | X | | X | X | | | | | | | | | | | | X | X | X |
| A | 13 | 2 | Identify various group processes. | | | | | | | | | X | X | X | | | | | | | | | | | | | | X | X | X |
| A | 13 | 3 | Identify components of group dynamics. | | | | | | | | | X | X | X | | | | | | | | | | | | | | X | X | X |
| A | 13 | 4 | Demonstrate group leadership and facilitation skills. | | | | | | | | | X | X | X | X | X | | | | | | | | | | | | X | X | X |
| A | 14 | 1 | List the steps of specific manufacturing processes. | | | | | | | X | X | X | | X | | | | | | | | | | | | | | X | X | X |
| A | 14 | 2 | Write in complete sentences. | | | | | | | X | X | X | X | | | | | | | | | | | | | | | X | X | X |
| A | 14 | 3 | Use correct punctuation. | | | | | | | X | X | X | X | | | | | | | | | | | | | | | X | X | X |
| A | 14 | 4 | Use correct spelling. | | | | | | | X | X | X | X | | | | | | | | | | | | | | | X | X | X |
| A | 14 | 5 | Write with accuracy, brevity, and clarity. | | | | | | | X | X | X | X | | | | | | | | | | | | | | | X | X | X |
| A | 15 | 1 | Organize material with a logical flow. | | | | | | | X | X | X | X | X | | | | | | | | | | | | | | X | X | X |
| A | 15 | 2 | Organize an oral presentation. | | | | | | | X | X | X | X | X | | | | | | | | | | | | | | X | X | X |
| A | 15 | 3 | Demonstrate good speaking characteristics. | | | | | | | X | | X | | X | X | X | | | | | | | | | | | | X | X | X |
| A | 15 | 4 | Demonstrate appropriate presentation demeanor. | | | | | | | X | | X | | X | X | X | | | | | | | | | | | | X | X | X |
| A | 16 | 1 | Interpret and clarify specifications prepared by others. | X | X | X | | | | X | | X | X | X | X | | | | | | | | | | | | X | X | X | X |
| A | 16 | 2 | Communicate with customer to clearly define requirements. | X | X | X | | | | X | X | X | X | X | | | | | | | | | | | | | X | X | X | X |
| Measurement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | 1 | 1 | Match measurement activities to manufacturing process. | | | | | | | | | | | | X | X | | | | | | | | | | | X | X | X | X |
| B | 1 | 2 | Select & use appropriate measurement techniques and instruments. | | | | | | | | | | | | X | | | | | | | | | | | | X | X | X | X |
| B | 1 | 3 | Describe measurement's role in manufacturing. | | | | | | | X | X | X | | X | | | | | | | | X | X | | | | X | X | X | X |
| B | 2 | 1 | Distinguish between direct and calculated measurements. | | | | | | | | | | | | X | X | X | | | | | | | | | | X | X | X | X |
| B | 2 | 2 | Compute calculated measurements. | | | | | | | | | | | | X | X | | | | | | | | | | | | X | X | X |
| B | 2 | 3 | Demonstrate general measurement techniques. | | | | | | | | | | | | X | X | X | X | | | | | | | | | | X | X | X |
| B | 2 | 4 | Demonstrate semi-precision measurement techniques. | | | | | | | | | | | | X | X | X | X | | | | | | | | | | X | X | X |
| B | 2 | 5 | Demonstrate precision measurement techniques. | | | | | | | | | | | | X | X | X | X | | | | | | | | | | X | X | X |
| B | 2 | 6 | Justify the use of precision measurements in manufacturing. | | | | | | | | | | | | X | | | | | | | | | | | X | X | | X | X |
| B | 3 | 1 | Explain calibration requirements of various precision instruments. | | | | | | | X | X | X | | X | | | | | | | | | | | | | | X | X | X |
| B | 3 | 2 | Illustrate measurement differences when taken with calibrated and non-calibrated instruments. | | | | | | | | | | | | X | X | | | | | | | | | | | X | X | X | X |
| B | 4 | 1 | Match appropriate measurement tools with various types of measurement requirements. | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | X |
| B | 4 | 2 | Demonstrate proper measurement tool usage. | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | X |
| B | 4 | 3 | State selection criteria for measurement tools. | | | | | | | | | X | X | X | X | | | | | | | | | | | | X | X | X | X |
| B | 5 | 1 | Convert between USCS and metric measurement systems. | | | | | | | | | | | | X | X | | | | | | | | | | | | X | X | X |
| B | 5 | 2 | Convert fractional measurements to decimal measurements. | | | | | | | | | | | | X | X | | | | | | | | | | | | X | X | X |
| B | 5 | 3 | Compute within measurement systems. | | | | | | | | | | | | X | X | X | | | | | | | | | | | X | X | X |
| B | 6 | 1 | Explain the function of measurement tools. | | | | | | | X | | X | | X | | | | | | | | | | | | | | X | X | X |
| B | 6 | 2 | Justify the use of particular measurement tools based on characteristics. | | | | | | | X | | X | | X | | | | | | | | | | | | X | X | X | X | X |
| B | 7 | 1 | Perform measurements. | | | | | | | | | | | | X | X | X | | | | | | | | | | | X | X | X |
| B | 7 | 2 | Document results of measurement activities and calculations. | | | | | | | X | | X | | X | | | | | | | | | | | | | X | X | X | X |
| B | 7 | 3 | Interpret results of measurements and calculations. | X | X | X | | | | | | | | | X | X | | | | | | | | | | | X | X | X | X |
| B | 8 | 1 | List steps of proper measurement procedures. | | | | | | | X | X | | X | | X | X | | | | | | | | | | | X | X | X | X |
| B | 8 | 2 | Explain rationale for each step. | | | | | | | X | X | | X | | X | X | | | | | | | | | | | X | X | X | X |
| B | 9 | 1 | Identify error possibilities in measurement tool selection. | | | | | | | | | | | | X | X | | | | | | | | | | X | X | X | X | X |
| B | 9 | 2 | Identify error possibilities within measurement procedures. | | | | | | | | | | | | X | X | | | | | | | | | | X | X | X | X | X |
| B | 9 | 3 | Identify common conversion error possibilities. | | | | | | | | | | | | X | X | | | | | | | | | X | X | X | X | X | X |

