

**APPENDIX**  
**A.1**

**CORE COMPETENCY REQUIREMENTS AND NIMS CREDENTIALS**  
**NIMS CERTIFIED MACHINIST**

**CORE COMPETENCY**  
**REQUIREMENTS:**  
**NIMS CERTIFIED**  
**MACHINIST**

| <b>APPRENTICE CORE COMPETENCIES</b> |   | <b>NIMS CREDENTIALS</b>                     |
|-------------------------------------|---|---|
| 1.                                  | Identify and Demonstrate Use of Machine Safety and Personal Protective Equipment                                    | Measurement, Materials, and Safety Level I  |
| 2.                                  | Demonstrate Compliance with Lock-out/Tag-out Procedures and OSHA Requirements and Guidelines                        |   |
| 3.                                  | Machine Operations and Material Handling, Hazardous Materials Handling and Storage, including EPA, Hazmat, and OSHA |   |
| 4.                                  | Part Inspection   |   |
| 5.                                  | Process Control   |   |
| 6.                                  | Process Adjustment – Single Part Production   |   |
| 7.                                  | Participation in Processes Improvement  |   |
| 8.                                  | Manual Operations: Layout   | Job Planning, Benchwork, and Layout Level I |
| 9.                                  | Manual Operations: Benchwork  |   |
| 10.                                 | Sawing  |   |
| 11.                                 | Job Process Planning  |   |
| 12.                                 | Drilling Operations   | Drill Press Skills Level I                  |
| 13.                                 | Turning Operations: Turning Between Centers   | Turning Between Centers Level I             |
| 14.                                 | Turning Operations: Turning Between Centers   | Turning Between Centers Level II            |
| 15.                                 | Turning Operations: Chucking  | Chucking Level I                            |
| 16.                                 | Turning Operations: Chucking  | Chucking Level II                           |
| 17.                                 | Milling: Square Up a Block  | Milling Level I                             |
| 18.                                 | Manual Milling: Vertical and Horizontal   |   |
| 19.                                 | Manual Milling: Vertical and Horizontal   | Milling Level II                            |
| 20.                                 | Surface Grinding, Grinding Wheel Safety (Optional)  | Grinding Level I                            |
| 21.                                 | Surface Grinding, Horizontal Spindle, Reciprocating Table (Optional)  |   |
| 22.                                 | Surface Grinding, Horizontal Spindle, Reciprocating Table (Optional)  | Grinding Level II                           |
| 23.                                 | CNC Programming - Milling and / or CNC Programming - Turning  | CNC Milling and / or CNC Turning Level I    |
| 24.                                 | CNC: Write a Simple CNC Milling and / or CNC Turning Program and Review Tool Path                                   |   |
| 25.                                 | CNC: Operate a CNC Milling Machine and / or Operate a CNC Lathe   |   |
| 26.                                 | General Housekeeping & Maintenance  | Included in all Machining Credentials       |
| 27.                                 | Preventative Maintenance - Machine Tools  |   |
| 28.                                 | Tooling Maintenance   |   |

**\*NOTE: There is not a specific sequence to the implementation of the Core Competencies. The twenty eight Core Competencies and the twelve NIMS Credentials, listed above, must be satisfactorily completed to meet the requirements of a NIMS Certified Apprentice Apprenticeship Program and earn a *Certificate of Completion*.**