

## Division of Apprenticeship Standards (DAS)

### Apprenticeship Program Summary Sheet

**To:** Adele Burnes, Chief  
**From:** Hershel Baser Jr.  
**CC:** Program Planning and Review  
**Date:** May 27, 2025

**Program Name:** Sacramento Valley Manufacturing Alliance  
**Industry:** Advanced Manufacturing  
**DAS File No.:** 100708  
**Grant Awardee:**  No  Yes

#### Actions:

- Proposed new apprentice program
- Existing apprenticeship program adding new occupations
- Existing apprenticeship program expanding area of operations
- Existing apprenticeship program changing work processes on approved occupations.

#### Labor Organizations Representing Any of the Apprentices:

None

#### Request for Approval under Labor Code 3075:

Sacramento Valley Manufacturing Alliance is not intended to train in the building and construction trades and is not eligible to dispatch apprentices to projects with public works, prevailing wage or skilled and trained workforce requirements within the meaning of Labor Code sections 1720 and 3075 and will not train or dispatch apprentices in the building and construction trades or firefighters occupations.

#### Comments:

The Sacramento Valley Manufacturing Alliance (SVMA) is requesting the approval of two supplementary occupation to their current program standards: "Inspectors, Testers, Sorters, Samplers & Weighers" and the occupation of "Quality Control Analyst". The program sponsors have identified these two supplemental occupations as a continuation of training and up-skilling of Journeypersons within the CNC Set-up, Programing, Milling & Turning occupation that was approved by DAS. SVMA and the program sponsors anticipate that they will need to hire no less than five employees in each of the occupations listed below.

Sacramento Valley Manufacturing Alliance will oversee the apprenticeship program herein and seeks approval from the Department of Industrial Relations, Division of Apprenticeship Standards for the following:

**Proposed Occupation, Wage Rate & O\*Net Code:**

- Inspectors, Testers, Sorters, Samplers & Weighers                      O\*Net:    51-9061.00  
Professional Worker Wage:        \$27.50 per hour  
Proposed Apprentice Wage:        \$20.50 per hour  
Proposed No. of Apprentices:    5
  
- Quality Controls Analyst    O\*Net:    19-4099.01  
Professional Worker Wage:        \$32.50 per hour  
Proposed Apprentice Wage:        \$20.50 per hour  
Proposed No. of Apprentices:    5

**Currently Approved Occupations with No Changes to Jurisdiction or Work Processes:**

- CNC Set-Up, Programming, Milling & Turning                                      O\*Net:    51-9162.00

**Proposed Employers:**

- Aerometals, 3920 Sandstone Drive, El Dorado Hills, CA 95762
  - Occupation(s): CNC Set-Up, Programming, Milling & Turning; Inspectors, Testers, Sorters, Samplers & Weighers; Quality Controls Analyst

# Sacramento Valley Manufacturing Alliance Program Standards

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**Article I Purpose and Policy**

The parties hereto declare it to be their purpose and policy to establish an organized, planned system of apprenticeship, conducted as an education-sponsored, employer-based undertaking.

These standards have, therefore, been adopted and agreed upon under the Shelley-Maloney Apprentice Labor Standards Act of 1939, as amended, to govern the employment and training of apprentices in the trade, craft or occupation defined herein, to become effective upon their approval.

**Article II Craft, Trade or Occupation, Related and Supplemental Instruction, Term of Apprenticeship, Ratio, Wage Schedule and Work Training**

<b>Occupation</b>	<b>O*Net Code</b>	<b>Attachment</b>
CNC Set-up, Programming, Milling & Turning	51-9162.00	B-1
Inspectors, Testers, Sorters, Samplers & Weighers	51-9061.00	B-2
Quality Control Analyst	19-4099.01	B-3

**Article III Organization**

There is hereby established the above-named master apprenticeship committee. The committee shall consist of five (5) members, who shall be selected by and represent the employer organization(s) signatory hereto. In addition, there shall be one (1) apprenticeship consultant representing the Division of Apprenticeship Standards and one (1) advisor from the Local Education Agency and such other advisors as the committee shall determine. Such advisors and the apprenticeship consultant shall act without vote.

**Article IV Jurisdiction**

These standards shall apply to the employer and employee organizations signatory hereto; their members, to other employers who subscribe hereto or who are party to a collective bargaining agreement with an employee organization(s) signatory hereto, and to all apprentice agreements hereunder.

Area Covered by Standards: Colusa, El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba counties.

**Article V Functions**

The functions of the apprenticeship committee shall be to:

- 1) develop an efficient program of apprenticeship through systematic on-the-job training with related and supplemental instruction and periodic evaluation of each apprentice;
- 2) serve in an advisory capacity with employers and employees in matters pertaining to these standards;
- 3) ensure the program's ability, including financial ability, and commitment to meet and carry out its responsibilities under federal and state law and regulations applicable to the apprenticeable occupation and for the welfare of the apprentice;
- 4) aid in the adjustment of apprenticeship disputes;
- 5) develop fair and impartial selection procedures and an affirmative action plan in accordance with existing laws and regulations and apply them uniformly in the selection of applicants for apprenticeship.

## **Article VI Responsibilities**

The responsibilities of the apprenticeship committee shall be to:

- 1) supervise the administration and enforcement of these standards;
- 2) adopt such rules and regulations as are necessary to govern the program provided that the rules and regulations do not conflict with these standards;
- 3) conduct orientations, workshops or other educational sessions for employers to explain the apprenticeship program's standards and the operation of the apprenticeship program;
- 4) pass upon the qualification of employers and, when appropriate, to suspend or withdraw approval;
- 5) conduct on-going evaluation of the interest and capacity of employers to participate in the apprenticeship program and to train apprentices on the job;
- 6) make periodic evaluations of each apprentice's on-the-job training and related and supplemental instruction;
- 7) ensure safe work site facilities, skilled workers as trainers at the work site, and safe equipment sufficient to train apprentices;
- 8) determine the qualifications of apprentice applicants and ensure fair and impartial treatment of applicants for apprenticeship selected through uniform selection procedures;
- 9) file a signed copy, written or electronic, of each apprentice agreement with the Division of Apprenticeship Standards, within 30 days of execution, with copies to all parties to the agreement;
- 10) establish and utilize a procedure to record and maintain all records of the apprentice's worksite job progress and progress in related and supplemental instruction;
- 11) establish and utilize a system for the periodic review and evaluation of the apprentice's progress in job performance and related instruction;

- 12) discipline apprentices, up to and including termination, for failure to fulfill their obligations on-the-job or in related instruction, including provisions for fair hearings;
- 13) annually prepare and submit a Self-Assessment Review as well as a Program Improvement Plan to the Chief of the Division of Apprenticeship Standards;
- 14) ensure training and supervision, both on the job and in related instruction, in first aid, safe working practices and the recognition of occupational health and safety hazards;
- 15) ensure training in the recognition of illegal discrimination and sexual harassment;
- 16) establish an adequate mechanism to be used for the rotation of the apprentice from work process to work process to ensure the apprentice of complete training in the apprenticeable occupation including mobility between employers when essential to provide exposure and training in various work processes in the apprenticeable occupation;
- 17) establish an adequate mechanism that will be used to provide apprentices with reasonably continuous employment in the event of a lay-off or the inability of one employer to provide training in all work processes as outlined in the standards;
- 18) comply with meaningful representation requirements for the interests of apprentices in the management of the program where apprentices are at least equally represented on an advisory panel established by the apprenticeship committee responsible for the operation of the program;
- 19) adopt changes to these standards, as necessary, subject to the approval of the parties hereto and the Chief of the Division of Apprenticeship Standards.

#### **Article VII Definition of an Apprentice**

An apprentice is a person at least 18 years of age, who has met the requirements for selection under the selection procedures of a participating employer, who is engaged in learning a designated craft or trade and who has entered into a written apprentice agreement under the provisions of these standards.

#### **Article VIII Duties of an Apprentice**

Each apprentice shall satisfactorily perform all work and learning assignments both on the job and in related instruction and shall comply with the rules, regulations and decisions of the apprenticeship committee.

#### **Article IX Apprentice Agreement**

- 1) Each apprentice agreement shall conform to the State law governing apprentice agreements, and shall be signed by the employer, by the program sponsor, and by the apprentice and must be approved by the apprenticeship committee.

- 2) Each apprentice shall be furnished with a copy of or be given an opportunity to study these standards before registration. These standards shall be considered a part of the apprentice agreement as though expressly written therein.

#### **Article X Termination and Transfer of Agreements**

- 1) During the probationary period, an apprentice agreement shall be terminated by the apprenticeship committee at the request in writing of either party. After such probationary period, an apprentice agreement may be terminated by the Administrator by mutual agreement of all the parties thereto or cancelled by the Administrator for good and sufficient reason.
- 2) If an employer is unable to fulfill his/her obligations to train under any apprentice agreement or in the event of a layoff, the apprenticeship committee may, with the approval of the Administrator, transfer such agreement to any other employer if the apprentice consents, and such other employer agrees to assume the obligation of said apprentice agreement.

#### **Article XI Lay-off**

- 1) If for any reason a lay-off of an apprentice occurs, the apprentice agreement shall remain in effect unless cancelled by the Administrator. However, credit for related instruction shall be given when the apprentice continues such instruction during the lay-off.
- 2) There shall be no liability on the part of the employer, the program, or the committee for an injury sustained by an apprentice engaged in schoolwork at a time when the apprentice is unemployed.

#### **Article XII Controversies**

All controversies or differences concerning apprentice agreements that cannot be adjusted locally by the apprenticeship committee or otherwise shall be submitted to the Administrator for determination.

#### **Article XIII Certificate of Completion**

- 1) In addition to previous on-the-job training and related school instruction, which is of an approved nature, the Apprentice shall have completed not less than an additional six (6) months as an apprentice under the laws of the State of California and demonstrated mastery of the skills and knowledge of the prescribed program.

- 2) In recognition of unusual ability and progress, the apprenticeship committee may decrease the term of apprenticeship for an individual apprentice not more than twelve and one-half percent (12½%).
- 3) Upon evidence of satisfactory completion of apprenticeship, and upon the recommendation of the apprenticeship committee, each apprentice will be issued a Certificate of Completion by the authority of the Chief of the Division of Apprenticeship Standards and the Interagency Advisory Committee on Apprenticeship.

#### **Article XIV Equal Opportunity in Apprenticeship**

The recruitment, selection, employment and training of apprentices during their apprenticeship shall be without discrimination because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation or veteran or military status.

Sacramento Valley Manufacturing Alliance will create selection procedures that meet objective standards and maintain a fair and equitable selection process for all applicants.

#### **Article XV Written Applications**

Applications for apprenticeship will be accepted: In-person

Monday – Friday, 8 am to 5 pm  
3053 Freeport Blvd. #417  
Sacramento, CA 95818

#### **Article XVI Records**

All records will be maintained, in written or electronic form, for five (5) years and kept at:

Sacramento Valley Manufacturing Alliance  
3053 Freeport Blvd. #417  
Sacramento, CA 95818

#### **Article XVII Annual Compliance**

Sacramento Valley Manufacturing Alliance will submit an annual compliance report to the Division of Apprenticeship Standards as requested by the Division.

Sacramento Valley Manufacturing Alliance agrees to accept electronic signatures for the Division of Apprenticeship Standards and all related Division of Apprenticeship Standards documents.

The foregoing standards are hereby agreed to and adopted by Sacramento Valley Manufacturing Alliance on February 23, 2026 (Committee approval date).

**Employer Organization**

Sacramento Valley Manufacturing Alliance  
3053 Freeport Blvd. #417, Sacramento, CA 95818

\_\_\_\_\_  
John Grover, Apprenticeship Committee Chair

\_\_\_\_\_  
Date

The foregoing apprenticeship standards, being in conformity with the applicable California Labor Code, California Code of Regulations and Federal Regulations, are hereby approved

\_\_\_\_\_  
(DAS approval date)

\_\_\_\_\_  
Adele Burnes, Chief  
Division of Apprenticeship Standards

\_\_\_\_\_  
Date

# **Attachment B-2**

## **Training Schedule and Working Conditions**

Sacramento Valley Manufacturing Alliance

### **Occupation**

**Occupation:** Inspectors, Testers, Sorters, Samplers, & Weighers  
**O\*Net Code:** 51-9061.00

### **Article I Term of Apprenticeship and Probation**

The standard term of apprenticeship shall be competency based with 296 related and supplemental instruction (RSI) hours and completed within approximately 24 months.

The period of probation shall be reasonable in relation to the full apprenticeship term, with full credit given for such period toward completion of the apprenticeship, and in no event shall exceed the shorter of 25 percent of the length of the program or one year. The period of probation shall be six (6) months.

### **Article II Wage Schedule**

#### **Professional Worker Wage:**

\$ 27.50 per hour effective 5/6/2026.

#### **Apprentice Wage and Advancement Schedule:**

In no case shall an Apprentice receive a starting wage that is less than the applicable federal, state or local entity (city or county) minimum wage, whichever is higher for the county or city where the apprentice is working. The applicable minimum wage law shall establish the effective date of the minimum wage.

To advance from one period to the next, the apprentice shall have met the following requirements:

1st Period	Level 1 Apprentice Competencies	\$ 20.50 /hour
2nd Period	Level 2 Apprentice Competencies	\$ 21.50 /hour
3rd Period	Level 3 Apprentice Competencies	\$ 24.50 /hour
4th Period	Level 4 Apprentice Competencies	\$ 29.50 /hour

**Hours of Work and Working Conditions and Overtime Provision:**

Eight (8) hours of labor constitutes a day's work. Employment beyond eight (8) hours in any workday or more than six (6) days in any workweek requires the employee to be compensated for the overtime at not less than one and one-half times the employee's regular rate of pay for all hours worked in excess of eight (8) hours, up to and including 12 hours in any workday, and for the first eight (8) hours worked on the seventh (7) consecutive day of work in a workweek; and double the employee's regular rate of pay for all hours worked in excess of 12 hours in any workday and for all hours worked in excess of eight (8) on the seventh (7) consecutive day of work in a workweek. If employers utilize an alternative workweek schedule in accordance with the California Industrial Welfare Commission Orders, the overtime will be determined and paid in accordance with the applicable alternative workweek provisions.

The workday and workweek and all other conditions of employment for apprentices shall conform to all applicable laws and regulations and shall not be greater than for those of a professional worker.

Overtime shall not be allowed if it will interfere with or impair the training or be detrimental to the health and safety of the apprentice.

**ARTICLE III Work-Training**

- 1) The employer shall see that all apprentices are under the supervision of a qualified professional worker or instructor and shall provide the necessary diversified experience and training in order to develop the apprentice into a proficiently skilled worker, as outlined herein.
- 2) Each apprentice shall be trained in the use of new equipment, materials and processes as they come into use in the occupation.
- 3) The major categories in which apprentices will be trained (although not necessarily in the order listed) are as follows:

**Competency Check List**

**Demonstrates Fundamentals:** Apprentice can perform the task with some coaching.

**Proficient in Task:** Apprentice performs task properly and consistently.

**Completion Date:** Date apprentice completes final demonstration of competency.

**Detailed Work Activities:** Initial and date each task when Competency Check List has been completed.

**Work Processes/Competencies**

**Level 1 Apprentice**

- Demonstrates technical Math skills, precision measuring skills.
- Demonstrates Quality systems reporting and documenting results.
- Demonstrates reading and interpreting blueprints, Geometric Dimension and Tolerancing (GD&T) and Engineering drawings.
- Demonstrates the ability to interpret terminology and symbols and model-based definitions.

**Level 2 Apprentice**

- Demonstrates the ability to use Common Gauges and Measurement Instruments
- Demonstrates industry standard use of Gauge handling, preservation, and storage Identify and apply various methods of cleaning, handling, and storing gauges.
- Demonstrates proper use of Surface Plate Tools and Techniques along with Angle measuring instruments.

**Level 3 Apprentice**

- Demonstrates the ability to use Special Electronic, Automatic, Pneumatic and Force Gauge Tools and Applications.
- Demonstrates the ability to use Specialized Inspection Equipment.
- Demonstrates the competence to use Calibration systems and tools.

**Level 4 Apprentice**

- Demonstrates the ability to Define and interpret the following terms related to sampling.
- Demonstrates the ability to understand Inspection Planning and Processes

**ARTICLE IV Related Instruction**

Apprentices shall satisfactorily complete prescribed courses of related and supplemental instruction, which will not be less than 148 hours per year. Related and supplemental instruction will be provided by Folsom Lake College.

Time spent in related and supplemental instruction may not be compensated.

<b><u>Course Name</u></b>	<b><u>Hours</u></b>
<b>Introduction to Mechanical Inspection</b>	<b>90 Hours</b>

Introduction to mechanical inspection is an introduction to the specialized role in manufacturing quality control known as metrology. Metrology is the science of measurement and related terminology.

**Intermediate Mechanical Inspection 90 Hours**

This is an intermediate mechanical inspection or metrology. Metrology is the science of measurement and related terminology.

**Engineering Graphics: 108 Hours**

This course applies the graphical tools needed to analyze, interpret, and solve engineering problems.

**SME ToolingU:****Math: Fundamentals 101 1 Hour**

This class covers basic arithmetic operations, including addition, subtraction, multiplication, and division.

**Math: Fractions and Decimals 111 1 Hour**

This class describes the methods used to perform basic mathematical operations using fractions, decimals, and percentages.

**Units of Measurement 112 1 Hour**

This class provides a thorough explanation of the English and metric measurement systems, the units they use, and how to convert measurements between units. Measurements that use base units include distance, mass, weight, and temperature.

**Geometry: Lines and Angles 151 1 Hour**

The class Geometry: Lines and Angles discusses the basic building blocks of all geometry: the line and the angle. Every print used in manufacturing is composed of lines and angles which must be interpreted to manufacture the depicted part.

**Shop Geometry Overview 170 1 Hour**

This class presents a general overview and refresher for the most common rules of geometry.

**Geometry: Circles and Polygons 171 1 Hour**

"Geometry: Circles and Polygons" covers the specifics of geometry involving circles and polygons with any number of sides.

**Trigonometry: The Pythagorean Theorem 201 1 Hour**

"Trigonometry: The Pythagorean Theorem" provides an explanation of the Pythagorean theorem and how it is used to solve various math problems involving and using right triangles.

**Trigonometry: Sine, Cosine, Tangent 211 1 Hour**

The class "Trigonometry: Sine, Cosine, and Tangent" discusses the three basic ratios that are the basis for trigonometry.

**Total Classroom Instructional: 296**

**ARTICLE V Ratio**

The ratio of apprentices to professional workers shall be:

- 1) Ratio #1: Each professional worker may supervise two (2) apprentice(s)

# Attachment B-3

## Training Schedule and Working Conditions

Sacramento Valley Manufacturing Alliance

### Occupation

**Occupation:** Quality Control Analyst  
**O\*Net Code:** 19-4099.01

### Article I Term of Apprenticeship and Probation

The standard term of apprenticeship shall be competency based with 440 related and supplemental instruction (RSI) hours and completed within approximately 36 months.

The period of probation shall be reasonable in relation to the full apprenticeship term, with full credit given for such period toward completion of the apprenticeship, and in no event shall exceed the shorter of 25 percent of the length of the program or one year. The period of probation shall be nine (9) months.

### Article II Wage Schedule

#### Professional Worker Wage:

\$ 32.50 per hour effective 5/6/2026.

#### Apprentice Wage and Advancement Schedule:

In no case shall an Apprentice receive a starting wage that is less than the applicable federal, state or local entity (city or county) minimum wage, whichever is higher for the county or city where the apprentice is working. The applicable minimum wage law shall establish the effective date of the minimum wage.

To advance from one period to the next, the apprentice shall have met the following requirements:

1st Period	Level 1 Apprentice Competencies	\$ 20.50 /hour
2nd Period	Level 2 Apprentice Competencies	\$ 21.50 /hour
3rd Period	Level 3 Apprentice Competencies	\$ 23.50 /hour
4th Period	Level 4 Apprentice Competencies	\$ 28.50 /hour
5th Period	Level 5 Apprentice Competencies	\$ 35.50 /hour
6th Period	Level 6 Apprentice Competencies	\$ 44.50 /hour

**Hours of Work and Working Conditions and Overtime Provision:**

Eight (8) hours of labor constitutes a day's work. Employment beyond eight (8) hours in any workday or more than six (6) days in any workweek requires the employee to be compensated for the overtime at not less than one and one-half times the employee's regular rate of pay for all hours worked in excess of eight (8) hours, up to and including 12 hours in any workday, and for the first eight (8) hours worked on the seventh (7) consecutive day of work in a workweek; and double the employee's regular rate of pay for all hours worked in excess of 12 hours in any workday and for all hours worked in excess of eight (8) on the seventh (7) consecutive day of work in a workweek. If employers utilize an alternative workweek schedule in accordance with the California Industrial Welfare Commission Orders, the overtime will be determined and paid in accordance with the applicable alternative workweek provisions.

The workday and workweek and all other conditions of employment for apprentices shall conform to all applicable laws and regulations and shall not be greater than for those of a professional worker.

Overtime shall not be allowed if it will interfere with or impair the training or be detrimental to the health and safety of the apprentice.

**ARTICLE III Work-Training**

- 1) The employer shall see that all apprentices are under the supervision of a qualified professional worker or instructor and shall provide the necessary diversified experience and training in order to develop the apprentice into a proficiently skilled worker, as outlined herein.
- 2) Each apprentice shall be trained in the use of new equipment, materials and processes as they come into use in the occupation.
- 3) The major categories in which apprentices will be trained (although not necessarily in the order listed) are as follows:

**Competency Check List**

**Demonstrates Fundamentals:** Apprentice can perform the task with some coaching.

**Proficient in Task:** Apprentice performs task properly and consistently.

**Completion Date:** Date apprentice completes final demonstration of competency.

**Detailed Work Activities:** Initial and date each task when Competency Check List has been completed.

## **Work Processes/Competencies**

### **Level 1 Apprentice**

- Demonstrates technical Math skills, precision measuring skills.
- Demonstrates Quality systems reporting and documenting results.
- Demonstrates reading and interpreting blueprints, Geometric Dimension and Tolerancing (GD&T) and Engineering drawings.
- Demonstrates the ability to interpret terminology and symbols and model-based definitions.

### **Level 2 Apprentice**

- Demonstrates the ability to use Common Gauges and Measurement Instruments
- Demonstrates industry standard use of Gauge handling, preservation, and storage Identify and apply various methods of cleaning, handling, and storing gauges.
- Demonstrates proper use of Surface Plate Tools and Techniques along with Angle measuring instruments.

### **Level 3 Apprentice**

- Demonstrates the ability to use Special Electronic, Automatic, Pneumatic and Force Gauge Tools and Applications.
- Demonstrates the ability to use Specialized Inspection Equipment.
- Demonstrates the competence to use Calibration systems and tools.

### **Level 4 Apprentice**

- Demonstrates the ability to Define and interpret the following terms related to sampling.
- Demonstrates the ability to understand Inspection Planning and Processes

### **Level 5 Apprentice**

- Demonstrates competency of Testing Methods equal but not limited to Destructive, non Destructive, Functionality, Equipment
- Demonstrates the ability to interpret Quality Improvement and Quality Audits
- Demonstrates the ability to define and use Quality Tools, Problem-solving Tools, and Continuous Improvement Techniques

### **Level 6 Apprentice**

- Demonstrates ability to define and describe Measurement System Analysis (MSA)
- Demonstrates Basic Statistics and Applications
- Demonstrates Statistical Process Control (SPC)

**ARTICLE IV Related Instruction**

Apprentices shall satisfactorily complete prescribed courses of related and supplemental instruction, which will not be less than 440 hours. Related and supplemental instruction will be provided by Folsom Lake College.

Time spent in related and supplemental instruction may not be compensated.

<b><u>Course Name</u></b>	<b><u>Hours</u></b>
<b>Quality Systems</b>	<b>54 Hours</b>
This course studies the specialized area of manufacturing engineering focused on Quality Management Systems (QMS). The course overviews common elements of all QMS and offers examples from the International.	
<b>Introduction to Mechanical Inspection</b>	<b>90 Hours</b>
Introduction to mechanical inspection is an introduction to the specialized role in manufacturing quality control known as metrology. Metrology is the science of measurement and related terminology.	
<b>Intermediate Mechanical Inspection</b>	<b>90 Hours</b>
This is an intermediate mechanical inspection or metrology. Metrology is the science of measurement and related terminology.	
<b>Engineering Graphics</b>	<b>108 Hours</b>
This course applies the graphical tools needed to analyze, interpret, and solve engineering problems. The engineering design process is taught using manual tools and computer-aided design and drafting (CADD) tools to solve typical engineering problems.	
<b>CMM Operation and Programming</b>	<b>90 Hour</b>
This course examines the role of Coordinate Measuring Machines (CMM) in automating metrology Quality Control (QC) in the advanced manufacturing environment.	
<b>SME ToolingU:</b>	
<b>Math: Fundamentals 101</b>	<b>1 Hour</b>
This class covers basic arithmetic operations, including addition, subtraction, multiplication, and division.	
<b>Math: Fractions and Decimals 111</b>	<b>1 Hour</b>
This class describes the methods used to perform basic mathematical operations using fractions, decimals, and percentages. Concepts like addition, subtraction, multiplication, and division with fractions and decimals are a large part of manufacturing processes and operations.	

**Units of Measurement 112**

**1 Hour**

This class provides a thorough explanation of the English and metric measurement systems, the units they use, and how to convert measurements between units.

**Geometry: Lines and Angles 151**

**1 Hour**

The class Geometry: Lines and Angles discusses the basic building blocks of all geometry: the line and the angle.

**Shop Geometry Overview 170**

**1 Hour**

This class presents a general overview and refresher for the most common rules of geometry.

**Geometry: Circles and Polygons 171**

**1 Hour**

"Geometry: Circles and Polygons" covers the specifics of geometry involving circles and polygons with any number of sides.

**Trigonometry: The Pythagorean Theorem 201**

**1 Hour**

"Trigonometry: The Pythagorean Theorem" provides an explanation of the Pythagorean theorem and how it is used to solve various math problems involving and using right triangles.

**Trigonometry: Sine, Cosine, Tangent 211**

**1 Hour**

The class "Trigonometry: Sine, Cosine, and Tangent" discusses the three basic ratios that are the basis for trigonometry.

**Total Classroom instructional: 440 hours**

**ARTICLE V Ratio**

The ratio of apprentices to professional workers shall be:

- 1) Ratio #1: Each professional worker may supervise two (2) apprentice(s)