Manufacturing Technician “Boot Camp” Course Syllabus

Contact Info
Sahara West Center
Office Hours: M-F 8 a.m. to 5 p.m.
2409 Las Verdes Street, Las Vegas, NV, 89102
Phone: 702-651-2696
Email: DWEDmanufacturing@csn.edu

Program Requirements
- A Nevada resident
- 18 years of age at the completion of the class
- Currently not employed in the manufacturing industry

Program Goal
Provide foundational manufacturing skills for local students, employers as well as meet the training requirements for the manufacturing industry in Las Vegas, Nevada.

Course Overview & Learning Objectives
Manufacturing Technician “Boot Camp” (12 weeks)
A mixture of online coursework and exams as well as hands-on training labs within a small learning community of other students and instructors (includes the intro to manufacturing components).

- Manufacturing logistics & safety
- Basic electricity
- Pneumatic, hydraulic, and industrial motors training
- Intro to robotics training

Course Learning Outcomes
- To be able to properly and safely handle materials
- To understand basic electricity
- To understand manufacturing processes and production
- To learn maintenance awareness
- To learn teamwork and communication skills as it relates to manufacturing
- To identify, predict, prevent, and stop potential hazards in the workplace (OSHA-10 training)
- Demonstrate competency at foundational levels of preparatory electricity & electronic training (PEET) and industrial electronic training
- Demonstrate basic and troubleshooting skills in pneumatic, hydraulic, and industrial motors
- To understand precision measurement and quality control
- To understand basic manufacturing systems such as 5S, lean manufacturing, and basic manufacturing logistics
- To be prepared for a possible career in manufacturing
**Training Sites & Class Times**

Training labs/class will be held in the evenings/weekends

<table>
<thead>
<tr>
<th>Monday, Wednesday 6:00 - 9:00 p.m.</th>
<th>Tuesday, Thursday 6:00 - 9:00 p.m.</th>
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<tbody>
<tr>
<td><strong>Southeast Career Technical Academy (SECTA)</strong></td>
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<tr>
<td>5710 Mountain Vista Street</td>
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<tr>
<td>Las Vegas, NV 89120</td>
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<tr>
<td><strong>Desert Rose Adult High School &amp; Desert Rose High School</strong></td>
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<tr>
<td>444 W Brooks Ave.</td>
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<td>North Las Vegas, NV 89030</td>
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**Class/Lab attire & Materials**

Casual clothing, rubber sole shoes and avoid loose clothing and dangling jewelry that can get caught in the equipment.

It is recommended that students bring a notebook and writing utensil to class so they can take notes. It is also recommended that students have a flash drive (2GB).

**Attendance**

It is recommended students attend labs for the hands on experience for what is reviewed online and for the technician boot camp. Strongly advise student to attend at least 27 labs/classes (75%).

**Exams & Grading Criteria**

All module exams for the online content will be proctored in our Assessment Center (see hours below) and need to be scheduled through our office. To schedule your exam call 702-651-2696 or email the MSTP office. When arriving to the take your exam you will be required to show a photo ID and sign in with the proctor. To access the exam, you will need to log in to your Canvas account in the Assessment Center for the proctor to input an access code. If you do not see this screen in Canvas then you have not completed all requirements prior to the exam.

All exams and assessments require a passing score of 75% or higher. If you do not receive a passing score, you will be given one chance to re-take the exam/assessment.

**Assessment Center Hours:**

Wednesdays 12:30 p.m. to 5:30 p.m. (last exam seating* 4:15 p.m.)
Fridays 8 a.m. to 3 p.m. (Last exam seating* 1:45 p.m.)
Saturdays 8 a.m. to 3 p.m. (Last exam seating* 1:45 p.m.)

*Regardless of last seating time, test-takers must arrive in time to finish testing before the posted Assessment Center closing time.

**Assessment Center Closed Due to the following holiday date(s):**
August 31-September 3, 2018

**WorkKeys Assessment**- It is recommended that students complete the Workkeys assessment and is also no cost to the student. Visit this site to get a feel for each section of the assessment (applied math, graphic literacy, workplace documents), take practice tests, view sample questions and the different levels for scoring. All students that complete this will get a certificate of completion for these assessments. Schedule your workkeys assessment through the MSTP office.
Online Course Content

Canvas is a Learning Management System (LMS) that will be organized into modules. Each model should mirror what is on the syllabus so you see what content will be next. Students will receive an email invitation to accept the course in Canvas. MSTP staff will provide login (student ID #) and password information. Students will begin each module by reviewing the material available and take the corresponding quizzes to that module. As the student progresses, more content will become available. There will be areas where it links out to our other LMS, Convergence.

Convergence is another LMS that we are using to deliver your online content. It will be linked to your course in Canvas and you will use the same login credentials. There will be some quizzes at the end of the mini courses students complete in convergence and students will be able to track their progress on all convergence material.

Basic Technical Requirements

Access to a laptop or desktop computer, a good internet connection, and will need to get the required free updated browsers (Google Chrome) and plugins (Adobe Flash, Adobe Reader, and Java) required for your computer to work well with Canvas and Convergence LMS.

Course Assignment Schedule

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<tr>
<th>Week 1: July 16 – July 21</th>
<th>PEETS Module</th>
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<tr>
<td>✴️ Electrical Safety General Awareness (18 mins)</td>
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<tr>
<td>✴️ Current, Voltage, and Resistance (24 mins)</td>
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<tr>
<td>✴️ Symbols, Standards, and Schematics (16 mins)</td>
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<tr>
<td>✴️ MPT 135 Chapter 1 – Material Handling- contains 8 quizzes and 1 exam (Canvas)</td>
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<tr>
<th>Week 2: July 23 – July 28</th>
<th>PEETS Module</th>
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<tr>
<td>✴️ Electrical Components for Blueprints (8 mins)</td>
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<tr>
<td>✴️ Digital Multimeters and Troubleshooting (28 mins)</td>
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<tr>
<td>✴️ Circuit and Switch Basics (15 mins)</td>
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<tr>
<td>✴️ MPT 135 Chapter 2: Safer/Efficient Equipment Operation – contains 4 quizzes and 1 exam (Canvas)</td>
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<td>✴️ MPT 135 Chapter 4 – 9 quizzes and 1 exam (Canvas)</td>
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<tr>
<th>Week 3: July 30 – August 4</th>
<th>PEETS Module</th>
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<tr>
<td>✴️ Lockout Tagout for Affected Employees (18 mins)</td>
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<tr>
<td>✴️ Three-Phase Theory, AC Circuits, Delta and Wye Connections (29 mins)</td>
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<tr>
<td>✴️ PEETS Final Exam (taken in lab/class)</td>
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<th>Week 4: August 6 – August 11</th>
<th>Industrial Controls Module</th>
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<tr>
<td>✴️ Electrical Wiring and Connections (31 mins)</td>
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<td>✴️ Electrical Meters and Measurements (26 mins)</td>
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<td>✴️ Process Control Fundamentals (20 mins)</td>
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<th>Week 5: August 13 – August 18</th>
<th>Industrial Controls Module</th>
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<tr>
<td>✴️ Electric Motor Basics (32 mins)</td>
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<tr>
<td>✴️ Motor Control Circuits and Functions (32 mins)</td>
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<tr>
<th>Week 6: August 20 – August 25</th>
<th>Industrial Controls Module</th>
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<tr>
<td>✴️ Input and Output Devices (23 mins)</td>
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<tr>
<td>✴️ PLCs and Discrete Input and Output (29 mins)</td>
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<tr>
<td>✴️ Measurement – Dimensions (20 mins)</td>
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<td>✴️ Precision Instruments (10 mins - in class workshop as well)</td>
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Week 7: August 27 – September 1
Industrial Controls Module
  ✦ Photoswitches, Proximity Sensors, and Feedback Devices (21 mins)
  ✦ Blueprint Basics (24 mins)
  ✦ 5S Methodology (21 mins)
  ✦ Industrial Controls Final Exam (taken in lab/class)

Week 8: September 3 – September 8 (Due to holiday no lab on September 3, 2018)
OSHA-10 Training (required) *TBD
*if you already have an OSHA-10 training certification please provide a copy of it to the MSTP office

Week 9: September 10 – September 15
Hydraulics & Pneumatics Module
  ✦ Pneumatic Basics (28 mins)
  ✦ Hydraulic System Basics (13 mins)

Week 10: September 17 – September 22
Hydraulics & Pneumatics Module

Week 11: September 24 – September 29
Hydraulics & Pneumatics Module

Week 12: October 1 – October 6
Instructor Break – use this week to catch up on any online work or makeup exams

Week 13: October 8 – October 13
Hydraulics & Pneumatics Module
  ✦ Hydraulics & Pneumatics Final Exam (taken in lab/class)

Frequently used Acronyms:
College of Southern Nevada (CSN)
Division of Workforce and Economic Development (DWED)
Manufacturing Skills Training Program (MSTP)
Preparatory Electricity & Electronic Training Systems (PEET)
Governor’s Office of Economic Development (GOED)
Workforce Innovation of the New Nevada (WINN)
High School Equivalent (HSE)
High school equivalency test (HiSET)
Test Assessing Secondary Completion (TASC)
Adult Literacy & Language (ALL) - Adult Basic Education (ABE)
English as a Second Language (ESL)
Community & Personal Enrichment (CPE)

Other Student Resources

Student Services Resources
https://www.csn.edu/student-resources

English Skills

Persons wishing to enroll in English as a Second Language (ESL) classes at CSN must sign up for a Registration Session.

To sign-up for a Registration Session, please register online

Testing dates/times/locations are listed here

* Links are updated each term according to the availability of courses offered.

High School Equivalency Preparation
Formerly referred to as General Education Development (GED), the High School Equivalency (HSE) program prepares adults to take the test of High School Equivalency. These courses cover the five sub-sections that make-up the HSE examination, which includes, Language Arts: Writing; Social Studies; Science; Language Arts: Reading; and Mathematics. CSN's Adult Literacy and Language Program provide HSE classes to the Las Vegas area and Nevada residents free of charge.

The State of Nevada has approved three different high school equivalency assessments: GED®, HiSET™, and TASC™. All three tests lead to the same State of Nevada Department of Education Certificate of High School Equivalency. Our HSE preparation classes are designed to prepare the student for any and all of these three tests.

To sign-up for an HSE Registration Session, please register online here or call at 702-651-4747.

Testing dates/times/locations are listed here.

* Links are updated each term according to the availability of courses offered.

**CSN Policies**

*CSN Americans with Disabilities Act (ADA) statement and Disability Resource Center Information*

*Disruptive and Abusive Students Policy*

*Nevada System of Higher Education (NSHE) Student Conduct Policy*

*Unregistered Persons in Class*

*Academic Integrity Policy*