

**OPPORTUNITIES FOR A NEW LIFE:  
INMATE EDUCATIONAL, VOCATIONAL AND BEHAVIORAL  
TRAINING AT SOLEDAD'S CORRECTIONAL TRAINING FACILITY**



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# **OPPORTUNITIES FOR A NEW LIFE: INMATE EDUCATIONAL, VOCATIONAL AND BEHAVIORAL TRAINING AT SOLEDAD'S CORRECTIONAL TRAINING FACILITY**

## **SUMMARY**

Each year the Civil Grand Jury tours each of the jail and prison facilities within Monterey County. This year, while touring the Correctional Training Facility (CTF) in Soledad, the jury noticed that there appeared to be a number of inmate classroom and shop activities in progress. Wondering about the nature and extent of all academic, vocational and rehabilitative programs that were made available to CTF inmates, the Jury decided to investigate. The results of that investigation were surprisingly impressive.

## **BACKGROUND**

Every year, thousands of inmates leave California prisons and jails and return to their families and communities. While some are able to reintegrate into their communities, find jobs, and become useful members of society, others commit new crimes and end up being reincarcerated. Although a number of factors account for why some ex-prisoners succeed and some don't, experts believe that a lack of education and skills is one key reason. For that reason, correctional education programs—whether academically- or vocationally-focused—are a particularly important service when made available by correctional facilities.

In August 2013, the RAND Corporation released its 85-page report entitled *Evaluating the Effectiveness of Correctional Education, A Meta-Analysis of Programs That Provide Education to Incarcerated Adults*.<sup>1</sup> The study was funded

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<sup>1</sup> Davis, Lois M., Robert Bozick, Jennifer L. Steele, Jessica Saunders and Jeremy N. V. Miles. Evaluating the Effectiveness of Correctional Education: A Meta-Analysis of Programs That

by the Bureau of Justice Assistance, U.S. Department of Justice, with the assistance of the Office of Vocational and Adult Education. After conducting a comprehensive literature search, the authors undertook a meta-analysis<sup>2</sup> to examine the association between correctional education and reductions in recidivism, improvements in employment after release from prison, and learning in math and in reading. They summarized their key findings as follows:

- “Our meta-analytic findings provide additional support to the premise that receiving correctional education while incarcerated reduces an individual’s risk of recidivating after release. After examining the higher-quality studies, we found that, on average, inmates who participated in correctional education programs had 43 percent lower odds of recidivating than inmates who did not.... This translates as a reduction in the risk of recidivating of 13 percentage points for those who participate in correctional education programs versus those who do not.”
- “We found that inmates who participated in high school/GED programs had 30 percent lower odds of recidivating than those who had not.”
- “When examining the relationship between correctional education and post-release employment, one might expect vocational training programs to be more adept than academic education programs at imparting labor market skills, awarding industry-recognized credentials, or connecting individuals with prospective employers. And, indeed, when we looked at the relationship between vocational training—versus academic correctional education programs—and post release employment, we found that individuals who participated in vocational training programs had odds of obtaining post release employment that

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Provide Education to Incarcerated Adults. Santa Monica, CA: RAND Corporation, 2013.  
[http://www.rand.org/pubs/research\\_reports/RR266.html](http://www.rand.org/pubs/research_reports/RR266.html).

<sup>2</sup> A meta-analysis uses a statistical approach to combine the results from multiple studies in an effort to increase power (over individual studies), improve estimates of the size of the effect, and/or to resolve uncertainty when reports disagree.

were 28 percent higher than individuals who had not participated in vocational training.”

- “In comparison, individuals who participated in academic programs (combining ABE, high school/GED, and postsecondary education programs) had only 8 percent higher odds of obtaining post release employment than individuals who had not participated in academic programs.”
- “State policymakers, corrections officials, and correctional education administrators are asking a key question: How cost-effective is correctional education? In other words, although our findings clearly show that providing correctional education programs is more effective than not providing them, such programs have costs. Thus, to place our meta-analytic findings into context, we undertook a cost analysis using estimates from the literature of the direct costs of correctional education programs and of incarceration itself, and using a three-year reincarceration rate. Our estimates show that the direct costs of providing education to a hypothetical pool of 100 inmates would range from \$140,000 to \$174,400 with three-year reincarceration costs being between \$0.87 million to \$0.97 million less for those who receive correctional education than for those who do not.”

This grand jury report reviews the nature and scope of the Soledad Correctional Training Facility’s (CTF’s) academic, vocational and behavioral treatment programs. The report then tries to determine the degree to which these programs meet CTF’s primary rehabilitative and re-entry mission objectives.

## **METHODOLOGY**

Jury members toured the academic and vocational training facilities at CTF, met with training instructors, met with inmate personnel at the Veterans Services office, met with Reentry Hub Program leaders, reviewed the RAND report, and

received and reviewed correspondence and documentary materials from CTF's warden, training instructors and education department personnel.

## **DISCUSSION**

The Correctional Training Facility (CTF) in Soledad, California, is a Level 2 prison. Its primary mission is to provide custody, care, treatment, and rehabilitative programs for minimum- and medium-security inmates. CTF is designated as a "Re-entry Hub" whose stated focus is to provide life skills for inmates through academic and vocational education classes, behavioral therapy, and paid work assignment experiences in Prison Industries Authority (PIA) projects. The ultimate goal of these programs is successful inmate re-integration into California communities at the time of their release.

All CTF inmates are required to take a TABE® reading test as part of the facilities reception process. TABE<sup>3</sup> is an academic assessment product used in adult basic education. Educators use TABE testing to help assess the skills and knowledge of adult learners. Based on the test results, the inmate's educational level and CTF program requirement, the inmate is given an education "assignment." There may be a significant wait between testing and finding the appropriate assignment level, especially when the inmate lacks sufficient English skills.

Inmates also take CASAS tests<sup>4</sup> to assess literacy development and employability skills awareness. The results of these tests and the TABE test are reviewed with the inmate to assess strengths, areas for improvement and the potential need for ESL support.

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<sup>3</sup> Test of Adult Basic Education (TABE).

<sup>4</sup> The Comprehensive Adult Student Assessment System (CASAS) is employed in California to provide assessments, data collection, software and materials, as well as technical assistance to meet the accountability requirements for federally supported California basic and literacy education programs for adults who lack basic skills, a high school diploma, or proficiency in English.

California law<sup>5</sup> requires that prisons provide literacy programs for inmates who score below a ninth grade reading level as assessed by the TABE testing. For any inmate enrolled in an academic or vocational program, the Statewide Literacy Plan requires that they receive daily literacy instruction until their reading level reaches the TABE reading level 9.0. At CTF, improved literacy skills are gained through its Adult Basic Education (ABE) program.

CTF programs and services fall into one of four general categories: Academic, Vocational, Reentry Hub, and Veteran's Services. While the latter service is not, primarily directed toward obtaining employment skills, it nevertheless plays an important educational role as will be explained later in this discussion.

#### **A. ACADEMIC PROGRAMS**

This category includes three programs: Mandatory Adult Basic Education (3 ABE levels), Voluntary Education and College. Students can move between programs as their skills allow.

##### **1. Mandatory Adult Basic Education**

Inmates who receive a TABE score of 0.0 to 3.9 are enrolled in ABE I. These students lack basic skills in math, English, and/or reading or they may be English Language Learners. These students require special support and tutoring to develop basic academic, language and life skills.

Inmates who receive a TABE score of 4.0 to 6.9 are enrolled in ABE II. They have acquired sufficient basic English and math skills to enhance their academic development, and they may be able to work more independently than ABE I students.

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<sup>5</sup> The Prison Literacy Act (Penal Code sections 2053 and 2053.1) and the California Statewide Literacy Plan (SB949).

Inmates who receive a TABE score of 7.0 to 8.9 are enrolled in ABE III. These students are encouraged to further develop their math and language skills in order to move up to the general educational development (GED) coursework.

After students attain a 9.0 TABE reading score they are eligible for the GED testing process, which includes targeted tests to determine areas needing improvement. A course of study with GED teachers is then developed. After a student demonstrates competency in the five GED subject areas, he/she takes a pre-GED examination to pinpoint any remaining areas of weakness. When a student completes the pre-GED test successfully, he/she can take the on-line five-subject GED examination.

## **2. Voluntary Education Program (VEP)**

This program offers inmates access to educational programming when a formal educational assignment is not currently available. It also serves as a supplement to traditional educational programming, GED preparation, and support for college students.

## **3. College**

College education is offered at CTF through Coastline Community College, Lassen Community College, Palo Verde Community College and Feather River College. Two hundred ninety-four (294) students were enrolled in the fall of 2015. In addition, inmates can also independently correspond with those colleges to pursue college degrees in a broad choice of majors.

## **B. REENTRY HUB: BEHAVIORAL THERAPY**

The goal of Reentry Hub therapy is to provide inmates with the skills and tools they need to successfully reenter society, find employment and eliminate or reduce their risk for recidivism following their release.



Inmates approaching their release date are separately housed as a group in a specially designated area of the CTF facility. There, over the course of a year, they cycle through the following Reentry Hub programs: Substance Abuse Treatment, Anger Management, Criminal Thinking Behavior, Family Relations, Transitions/Employability, and the California Identification Program. Placement in each program is based on the inmate's remaining time to serve and a Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) needs assessment.

#### **1. Substance Abuse**

This program uses the substance abuse intervention program developed by the University of Cincinnati. The curriculum is designed for individuals who have substance abuse issues of the type that often lead to criminal behavior. The program is 150 days in length and meets 5 days each week.

#### **2. Anger Management**

This program curriculum addresses aggression, impulse control, hostility, anger and tendencies toward violence. The program is 90 days in length and meets 2 days per week.

#### **3. Criminal Thinking**

This program curriculum addresses behaviors and associations regarding criminal thinking, including moral development, narcissism, low ego, resistance to change, defensive attitudes and reasoning, and other behavioral traits that lead to criminal activity. The program is 90 days in length and meets 2 days per week.

#### **4. Family Relations**

This program curriculum addresses family and marital relationships. Also included are parenting, domestic violence, and family reunification for inmates

who have had limited contact with family members. The program is 6 months in length and meets 1 day per week.

## **5. Transitions**

This program addresses transitions planning, job searching, job applications, winning resumes, job interviewing skills, one-stop career center orientation, and financial literacy. The program is 5 weeks in length and meets 5 days per week.

## **6. California Identification Program**

All inmates approaching their release date are screened 6 months prior to parole and, if eligible, receive a State of California Identification Card (CAL-ID) when released in order to satisfy federal requirements for obtaining employment. The CAL-ID Card Program provides a valid California identification card to eligible inmates in accordance with California Penal Code Section 3007.05. Possession of a CAL-ID card is a critical component for employment and other services. Employment increases an ex-offender's opportunities to obtain housing and health care, comply with court-ordered debts, such as restitution and child-support, and support him or her and family.

In order to participate in THE CAL-ID program, offenders must:

- Be within 120-210 days of release;
- Have no active felony hold, warrant, or detainer that may result in additional incarceration following release;
- Not have an active Immigration and Customs Enforcement hold, which would result in deportation;
- Provide a valid Social Security number;
- Have been issued a California identification card or driver's license from the Department of Motor Vehicles within the previous 10 years; and
- Provide a physical address, including a zip code.

### **C. VETERANS SERVICE CENTER**

While technically not a program designed by CTF to educate or provide vocational re-entry skills to inmates, the broad scope of services offered at this center is available to both veterans and non-veterans alike, according to their individual needs. The CTF Veterans Service Center was the first of its kind established in any prison in the United States. The Center is operated on a daily basis by long-term dedicated CTF inmates.

The Veterans Service Center was first established in 2005, following federal enactment of Public Law 107-95 (2001). The stated goal of that act was to end chronic homelessness among veterans. Then, in 2012, California enacted AB 2490<sup>6</sup>, which directed the California Department of Corrections and Rehabilitation to establish programs to assist incarcerated U.S. military veterans and their families in obtaining access to veterans' benefits and services available through the United States Department of Veterans Affairs, the State, and California Counties. Since then, the scope of services offered through the center has expanded to provide access to comprehensive benefit counseling, V.A. medical care, educational benefits (including those for eligible dependent children), V.A. claims assistance, public assistance, transitional housing, V.A. disability claims, dependent indemnity compensation and assistance, compensation apportionment for eligible spouse, dependent children and dependent parents, requests for military records, State veterans homes, burial benefits, pension benefits and parole planning.

At the end of November 2015, the Veterans Service Office reported that it had assisted in the recovery of over \$15,069,340 in earned disability compensation. In addition, \$14,289,278 was made available to the families of incarcerated veterans through the VA program of apportionment of benefits. In addition to CTF, the Veterans Service Office now serves 33 California Prisons, 41 prisons in

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<sup>6</sup> An act to add Chapter 4 (commencing with Section 1840) to Division 8 of the Military and Veterans Code, and to add Article 6 (commencing with Section 2695) to Chapter 4 of Title 1 of Part 3 to the Penal Code, relating to veterans.

23 other states, 4 federal prisons, and the U.S. Army Disciplinary Barracks, located at Fort Leavenworth, Kansas.

#### **D. VOCATIONAL TRAINING COURSES**

Vocational training opportunities at CTF are quite varied and offer surprising subject-matter depth. Most vocational courses require students to first complete an introductory “CORE” level of training appropriate to the selected vocation before moving on to more in-depth subject matter.

The selection of vocational courses includes Auto Body, Auto Mechanics, Carpentry, Computer Literacy, Office Services, Construction Technology, Electrical Works, Electronics, HVAC, Masonry, Plumbing, Small Engines, and Welding. Most of these programs enable students to obtain national certifications in their chosen field. More detailed information regarding each course of vocational training follows.

##### **1. Auto Body And Paint**

The Auto Body & Paint vocational training consists of two module levels for course completion and two additional advanced levels that are electives. Inmates (students) need a minimum of 1100 hours for basic program completion. The student may then continue on to complete advanced elective module levels 3 & 4, which require an additional 900 hours of training. Industry certification as a Master Collision Repair Technician is available through the National Institute for Automotive Service Excellence (ASE) for students who successfully test in all four levels.

This course teaches students those physical tasks and skills necessary for performing auto body and paint repair work in a commercial body shop setting. Students learn the use of hand and power tools associated with cutting, welding, and grinding sheet metal, and to cut, remove and replace damaged sections of sheet metal. They become familiar with those techniques necessary to measure

and straighten auto body frames with the use of hydraulic equipment. Finally, students learn how to finish (sand and fill), prime and paint the completed body repairs. Apart from mechanical skills, students develop essential active listening skills to be applied while working with their supervisor(s) and customers. Other critical skills include complex problem solving, speaking, and working with others. This course prepares a student to become an Auto Body and Related Repairer<sup>7</sup>, capable of repairing and refinishing automotive vehicle bodies and straightening vehicle frames. A worker in this position is expected to be able to do this job after 12 months of on-the-job training. The mean hourly wage for the occupation of body & paint technician in California is \$22.00 per hour, with average job openings of 410 per year from 2012 to 2022. Detailed course content is set forth in **FIGURE 1**.

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<sup>7</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 49-3021 in California.

## FIGURE 1 - AUTO BODY COURSE CONTENT

### LEVEL 1

Shop & Site Safety  
 Tools & Equipment  
 Job Preparation  
 Automotive Detailing  
 Estimating  
 New Technology Students will Demonstrate Knowledge and Understanding of Units 2-6  
 Painting & Refinishing- Safety Precautions  
 Painting & Refinishing- Surface Preparations  
 Painting & Refinishing- Spray Gun & Related Equipment Operation  
 Painting & Refinishing- Paint Mixing, Paint Matching & Applying  
 Painting & Refinishing- Paint Defects, Causes & Cures  
 New Technology Students will Demonstrate Knowledge and Understanding of Units 8-12

### LEVEL 2

Non Structural Analysis & Damage Repair (Body Component) Preparation  
 Non Structural Analysis & Damage Repair (Body Component) Outer Body Panel Repair  
 Non Structural Analysis & Damage Repair (Body Component) Metal Body & Body Filling  
 Non Structural Analysis & Damage Repair (Body Component) Moveable Glass and Hardware  
 Non Structural Analysis & Damage Repair (Body Component) Metal Welding & Cutting  
 Non Structural Analysis & Damage Repair (Body Component) Plastics & Adhesives  
 New Technology Students will Demonstrate Knowledge and Understanding of Units 14-19

### LEVEL 3

Structural Analysis & Damage Repair- Frame Inspection & Repair  
 Structural Analysis & Damage Repair- Unibody Inspection, Measurement, & Repair  
 Structural Analysis & Damage Repair- Fixed Glass  
 Structural Analysis & Damage Repair- Metal Welding and Cutting  
 New Technology Students will Demonstrate Knowledge and Understanding of Units 21-24

### LEVEL 4

Mechanical & Electrical Components- Suspension and Steering  
 Mechanical & Electrical Components- Electrical  
 Mechanical & Electrical Components- Brakes  
 Mechanical & Electrical Components - Heating & Air Conditioning  
 Mechanical & Electrical Components- Cooling Systems  
 Mechanical & Electrical Components- Drive Train  
 Mechanical & Electrical Components- Fuel, Intake and Exhaust Systems  
 Mechanical & Electrical Components- Restraint Systems (Active Restraint Systems)  
 Mechanical & Electrical Components- Restraint Systems (Passive Restraint Systems)  
 Mechanical & Electrical Components- Restraint Systems (Supplemental Restraint Systems SRS)  
 New Technology Students will Demonstrate Knowledge and Understanding of Units 26-35

## **2. Auto Mechanics**

The Auto Mechanics vocation consists of a CORE level and three (3) advanced levels and takes at least one year for the student to complete. The inmate (student) must be dedicated and possess above average mechanical aptitude. The student will learn all phases of automotive repair and maintenance. Upon completion of the course the

student will be eligible to apply for national certification by the National Association for Automotive Service Excellence (ASE). The textbooks are from the NCCER Content Learning Series called Auto Mechanics, volume levels one, two and three.

The National Institute for Automotive Service Excellence (ASE) is a voluntary certification program established to provide certification in eight areas of specialization, at the journeyman level of certification, and at the Master Automobile Technician level. It was founded to address the severe shortage of trained automotive technicians and to develop a standardized training process and curriculum. Today, ASE is recognized by hundreds of leading manufacturers, dealers, service stations, independent shops, and other national associations.

Students will study in depth analysis and troubleshooting techniques. They will use assorted hand and power tools, develop use of computer-aided diagnostic equipment, and learn spatial problem-solving skills. The course prepares students to become Automotive Service Technicians and Mechanics,<sup>8</sup> able to diagnose, adjust, repair and overhaul automotive vehicles. The mean hourly wage for the occupation of Automotive Service Technician in California is \$27.34 per hour, with projected average annual job openings of 2,590. Detailed course content is set forth in **FIGURE 2**.

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<sup>8</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 49-3023 in California.

## FIGURE 2 – AUTO MECHANICS COURSE CONTENT

### LEVEL 1 -Introduction to the Automotive Industry

Safety  
 Shop Orientation  
 Basic Technician Skills  
 Wheels, Tires, and Wheel Bearings  
 Suspension System Principles  
 Suspension System Service  
 Steering System Principles  
 Steering Service  
 Brake System Principles  
 Brake System Service  
 Drum Brake System Principles  
 Drum Brake System Inspection and Service  
 Disc Brake System Principles  
 Disc Brake System Inspection and Service  
 Antilock Brakes, Electronic Stability Control, and Power Assist  
 Electrical/Electronic System Principles  
 Basic Electrical/Electronic System Service  
 Starting and Charging System Principles  
 Starting and Charging System Service  
 Lighting and Electrical Accessories  
 Engine Performance Principles  
 Engine Mechanical Testing and Service  
 Engine Performance Service  
 Automatic and Manual Transmissions  
 Heating and Air Conditioning  
 Vehicle Maintenance

### LEVEL 2 - Introduction to Brakes

Shop Safety and Environmental Protection  
 Brake Tools, Shop Equipment & Service Information  
 Hydraulic System Fundamentals  
 Master Cylinders, Calipers, and Wheel Cylinders  
 Master Cylinder, Caliper, and Wheel Cylinder Service  
 Power Assist Units  
 Power Assist Service  
 Hydraulic Valves, Switches, Lines, and Hoses  
 Hydraulic Valve, Switch, Line, Hose Service  
 Friction Brake Theory  
 Disk Brake System Components and Operation  
 Disk Brake Service  
 Drum Brake System Components and Operation  
 Drum Brake Service  
 Wheel Bearings and Oil Seals  
 Wheel Bearing and Oil Seal Service  
 Parking Brakes  
 Parking Brake Service  
 Brake System Electrical and Electronic Components  
 Anti-Lock Brake and Traction Control System Components and Operation

Anti-Lock Brake and Traction Control System Service  
 Troubleshooting Brake Systems and Steering.

### LEVEL 3 - Basic Suspension and Steering Systems Operation

Shop Safety and Environmental Protection  
 Special Service Tools and Equipment  
 Common Suspension System Components  
 Front Suspension Systems  
 Front Suspension System Service  
 Rear Suspension Systems  
 Rear Suspension System Service  
 Steering Systems  
 Steering Linkage and Manual Steering Gear Service  
 Power Steering and Four-Wheel Steering Service  
 Driveline and Wheel Components  
 Driveline and Wheel Service  
 Electronic Suspension and Steering Systems  
 Electronic Suspension and Steering Service  
 Wheel Alignment Principles  
 Wheel Alignment Procedures  
 Suspension and Steering Troubleshooting

### LEVEL 4 - Introduction to Automotive Heating, Air Conditioning, and Ventilation

Shop Safety and Environmental Protection  
 HVAC Tools, Equipment, and Service Information  
 AC Electrical and Electronic Fundamentals  
 Principles of Refrigeration  
 Refrigerants, Refrigerant Oils, and Related Chemicals  
 Hoses, Lines, Fittings, and Seals  
 Compressors, Clutches, and Drives  
 Evaporators, Condensers, Accumulators and Receiver-Driers  
 Control Valves and Switches  
 Engine Cooling Systems and Vehicle Heaters  
 Air Delivery Systems  
 Manual HVAC Controls  
 Automatic Temperature Control Systems  
 Refrigeration System Diagnosis and Leak Detection  
 Refrigerant Recovery, Recycling and Handling  
 Hose, Line, Fitting and O-Ring Service  
 Compressor and Clutch Service  
 Valve, Evaporator, Condenser, and Related Parts Service  
 Heater and Engine Cooling System Service  
 Air Delivery and Manual HVAC Control Service  
 Automatic Temperature Control System Service  
 Air Conditioning System Installation and Retrofitting



### 3. Carpentry

Carpentry is a one year program during which the student learns basic carpentry skills such as framing, construction laboring, drywall and suspended ceiling installing, tapering, site helping, and some cabinet making. Upon completion of the course, the student will be eligible to apply for national certification in carpentry by the National Center for Construction and Education Research (NCCER). The Carpentry vocation consists of a CORE level and three (3) advanced levels for the student to complete. The textbooks are from the NCCER Contren Learning Series called Carpentry, volumes level one, two, & three. NCCER is a not-for-profit 501(c) (3) construction education foundation created in 1996. Students are currently being assigned. The class will be filled with twenty-seven (27) students, taught by an instructor and three teacher's aides. Details of course content are set forth in **FIGURE 3**.

The successful completion of this course prepares students for employment as Carpenters<sup>9</sup> and Construction Laborers<sup>10</sup>. Employers typically expect Carpenters to be able to do the job after a minimum of 12 months of on-the-job training. The mean rate of pay for this occupation is \$25.97 per hour in California, where it was projected to have 3,970 openings per year between 2012 and 2022.

Employers usually expect Laborers to be able to do the job after Moderate-term on-the-job training (1-12 months). The mean rate of pay for this occupation is \$20.35 per hour in California, where it was projected to have 5,510 openings per year between 2012 and 2022.

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<sup>9</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2031 in California.

<sup>10</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2061 in California.

## **FIGURE 3 – CARPENTRY COURSE CONTENT**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### **LEVEL ONE**

Orientation to the Trade  
Building Materials, Fasteners, &  
Adhesive  
Hand & Power Tools  
Reading Plans and Elevations  
Floor Framing  
Wall and Ceiling Framing  
Roof Framing  
Introduction to Concrete &  
Reinforcing Material  
Windows and Exterior Doors  
Basic Stair Layout

### **LEVEL 2**

Commercial Drawings  
Roofing Applications  
Thermal and Moisture Protection  
Exterior Finishing  
Cold-Formed Steel Framing  
Drywall Installation  
Drywall Finishing  
Doors and Door Hardware  
Suspended Ceiling s  
Window, Door, Floor, and Ceiling  
Trim  
Cabinet Installation  
Cabinet Fabrication

### **LEVEL 3**

Rigging Equipment  
Rigging Practices  
Properties of Concrete  
Reinforcing of Concrete  
Handling and Placing Concrete  
Trenching and Excavating  
Foundations and Slab-on-Grade  
Vertical Formwork  
Horizontal Formwork  
Tilt-up Wall Panels

#### **4. Computer Literacy**

In this course the instructor lectures and trains the students to meet the basic requirements for employability in today's high tech world, where digital literacy is a requirement. The program is structured to graduate students having at least 255 hours of training over the course of six (6) months. It involves a total of fifty-four (54) students split into two daily classes of 3.25 hours/day.

Successful course graduates can earn an Internet and Computing Core Certification (IC3®) by Certiport. Established in 1997, Certiport provides complete career-oriented certification solutions to academic institutions and IT Professionals. These services encompass test development, psychometrics, program management, sales and marketing for the official Microsoft® Office certification program, the Microsoft® Technology Associate certification program, the Adobe® Certified Associate certification program, the Adobe® Certified Expert program, the HP Accredited Technical Associate, the CompTIA Strata™ IT Fundamentals, the Autodesk® Certified User certification program, the Intuit® QuickBooks Certified User certification program and the IC3 Digital Literacy certification.

This IC3 Internet and Computing Core Certification Guide program is rigorously applied in the Computer Literacy classrooms and its protocols are followed exactly in daily instruction. The curriculum consists of systematic instruction, using visual (Smart Board), auditory (Learn Key Training), readings in the IC3 curriculum book and student demonstration exercises that verify student aptitude to successfully execute each objective of the curriculum. The Certiport Certification that students earn is an internationally recognized qualifying standard of computer literacy useful to potential employers, since the course covers a wide range of critical “real world applications” for use in today's business world.

Successfully completing this course enables students to be employed as General Office Clerks<sup>11</sup>. However, they are able to perform duties more varied and diverse than those needed for this occupational classification. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include, among other things, a combination of answering telephones, bookkeeping, typing or word processing, office machine operation, and filing. The mean hourly rate for those classified as General Office Clerks is \$16.24 per hour in California, where it was projected to have an average of 9,950 openings per year. Details of the Computer Literacy course content are set forth in **FIGURE 4**.

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<sup>11</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 43-9061 in California.

**FIGURE 4 – COMPUTER LITERACY COURSE CONTENT**

| <b><u>Module</u></b><br><b><u>V01.02.</u></b> | <b><u>Educational Component</u></b><br><b><u>Instructional</u></b> | <b><u>Instructional Method</u></b>                           |
|-----------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------|
|                                               | Orientation                                                        | Orientation Packet                                           |
| 01.                                           | Shop and Site Safety                                               | Introductory Power Point Presentation and Safety Orientation |
| 02.                                           |                                                                    |                                                              |
| 03.                                           | Employer Expectations                                              | Text and Quiz, Writing a Resume                              |
| 04.                                           | Finding and Applying for a Job                                     | Text and Quiz                                                |
| 05.                                           | CPU Hardware, Peripherals and Troubleshooting                      | Learn Key Systems Audio/Visual Program                       |
| 06.                                           | CPU Software                                                       | Learn Key Systems Audio/Visual Program                       |
| 07.                                           | CPU Operating Systems                                              | Learn Key Systems Audio/Visual Program                       |
| 08.                                           | Keyboarding                                                        | Mavis Beacon Software Training                               |
| 09.                                           | Applications - Program Functions                                   | Learn Key Systems Audio/Visual Program                       |
| 10.                                           | Applications - Word Processing                                     | Learn Key Systems Audio/Visual Program                       |
| 11.                                           | Applications - Spreadsheet Features                                | Learn Key Systems Audio/Visual Program                       |
| 12.                                           | Applications - Presentation Software                               | Learn Key Systems Audio/Visual Program                       |
| 13.                                           | Concepts of Networks, Intranet and Internet                        | Learn Key Systems Audio/Visual Program                       |
| 14.                                           | Communication and Collaboration                                    | Learn Key Systems Audio/Visual Program                       |
| 15.                                           | Internet and the Worldwide Web                                     | Learn Key Systems Audio/Visual Program                       |
| 16.                                           | Computer and Society                                               | Learn Key Systems Audio/Visual Program                       |
| 17.                                           | Employer Expectations (Review)                                     | Text and Quiz                                                |
| 18.                                           | New Technology                                                     | Review of Exercises in IC' Section 3                         |

## **5. Office Services & Related Technologies**

This vocational course, related to the Computer Literacy Course, is currently closed to intake until a new instructor is hired. When the class begins again, the instructor lectures and trains the students to be able to demonstrate focused knowledge as a Microsoft Office Specialist at the pre-apprentice to apprentice level. After successful completion of the course, students have the ability to be employed as word processors, typists, and office clerks. The students are educated in IC3 Internet & Computing Core, Microsoft Word, Excel, Power Point, and Windows OSC. The course consists of the Computer Literacy course materials plus two additional levels of training. Data regarding mean hourly rates and projected annual job openings for this specialty occupation were not available. Further details of the course content are set forth in **FIGURE 5**. All instruction includes Microsoft Office Specialist approved courseware.

### **FIGURE 5 - OFFICE SERVICES & RELATED TECHNOLOGIES COURSE CONTENT**

**Level 1 - IC3 Internet & Computing Core Module**  
**Computing Fundamentals**  
**Key Applications**  
**Living Online**

**Level 2 - Microsoft Word & Windows Operating System**  
**Editing & Formatting Documents**  
**Enhancing & Customizing Documents**  
**Referencing & Sharing Information**

**Level 3A – Microsoft Excel & Windows Operating System**  
**Preparing & Formatting Worksheets**  
**Enhancing the Display of Workbooks**  
**Advanced Formatting, Formulas, & Data Management**  
**Managing & Integrating Data & the Excel Environment**

**Level 3B - Microsoft PowerPoint & Windows Operating System**  
**Creating & Formatting PowerPoint Presentations**  
**Customizing & Enhancing PowerPoint Presentations**

## 6. Construction Technology

This one year course covers multiple construction-related techniques, such as plumbing, block, brick, and concrete, roofing, framing, site layout, and electrical. NCCER certifications are available for successfully completing each course of study, level and practical “hands on” applications practice. Currently there are twenty-seven (27) students assigned to the course with three (3) teaching aides assisting the Instructor.

The Construction Technology vocation consists of a CORE introduction and two (2) levels for the student to complete. The textbooks are from the NCCER Contren Learning Series called Construction Technology, volumes level one and two. The successful completion of this course prepares students for employment as Carpenters<sup>12</sup>, Construction Laborers<sup>13</sup>, Drywall and Ceiling Tile Installers<sup>14</sup>, and Cement Masons and Concrete Finishers.<sup>15</sup> Details of course content are set forth in **FIGURE 6**.

Employers typically expect Carpenters to be able to do the job after a minimum of 12 months of on-the-job training. The mean rate of pay for this occupation is \$25.97 per hour in California, where it was projected to have 3,970 openings per year between 2012 and 2022. Employers usually expect Laborers to be able to do the job after Moderate-term on-the-job training (1-12 months). The mean rate of pay for this occupation is \$20.35 per hour in California, where it was projected to have 5,510 openings per year between 2012 and 2022.

Employers usually expect Drywall and Ceiling Tile Installers to be able to do the job after Moderate-term on-the-job training (1-12 months). The mean rate of pay for this

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<sup>12</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2031 in California.

<sup>13</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2061 in California.

<sup>14</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2081 in California.

<sup>15</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2051 in California.

occupation is \$27.31 per hour in California, where it was projected to have 950 openings per year between 2012 and 2022.

Employers typically expect Cement Mason and Concrete Finishers to be able to do the job after a minimum of 12 months of on-the-job training. The mean rate of pay for this occupation is \$23.95 per hour in California, where it was projected to have 750 openings per year between 2012 and 2022.

## **FIGURE 6 – CONSTRUCTION TECHNOLOGY COURSE**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### **LEVEL 1**

Site Layout One: Distance Measuring and Leveling  
Introduction to Concrete, Reinforcing Materials, and Forms  
Handling and Placing Concrete  
Introduction to Construction Technology

Construction Technology Units and Installation Techniques  
Floor Systems  
Wall and Ceiling Framing  
Roof Framing  
Roofing Applications

### **LEVEL 2**

Exterior Finishing  
Basic Stair  
Electrical Safety  
Residential Electrical Services  
Introduction to HV AC  
Introduction to Drain, Waste, and Vent (DWV) Systems  
Plastic Pipes and Fittings  
Copper Pipe and Fittings



## 7. Electric Works

This Electric Works course teaches enrolled inmates the technical aspects of electrical work, while at the same time providing actual hands-on opportunities to practice their newly learned skills on small scale construction projects. The instructor lectures and demonstrates how to do basic electrical wiring of a home or office building. Students learn the skeletal structure of a home and identify the various types of current, how it is wired and how to access it at its source. Students are also given hands-on tasks, such as installing an overhead light fixture and any electrical circuits that are associated with it. They are also taught how to troubleshoot electrical systems. The course requires a one-year commitment to complete. Certification is available from the National Center for Construction and Educational Research (NCCER). NCCER is a not-for-profit 501(c) (3) construction education foundation created in 1996. At present, the class is comprised of an instructor, 27 students and 3 teaching aides. Detailed course contents are set forth in **FIGURE 7**.

The course prepares students to become Electricians<sup>16</sup> after a minimum of 12 months of on-the-job training. The mean pay rate for this occupation is \$31.36 per hour in California, where it was projected to have an average of 2000 openings each year between 2012 and 2022. This course also prepares students to become Construction Laborers<sup>17</sup> after a moderate term (1-12 months) of on-the-job training. The mean pay rate for workers in this occupation is \$20.36 per hour in California, where it was projected to have an average of 5510 openings each year between 2012 and 2022.

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<sup>16</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification in California.

<sup>17</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2061 in California.

## **FIGURE 7 - ELECTRIC WORKS COURSE CONTENT**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### **LEVEL 1**

Orientation to the Trade  
Electrical Safety  
Introduction to Electric Grunts  
Electric Theory  
Five Introductions to NEC  
Six Device Boxes  
Hand Bending  
Raceways and Fittings  
Conductors and Cables  
Basic Electrical Construction Drawings  
Residential Electrical Services  
Electrical Test Equipment

### **LEVEL 2**

Alternating Current  
Two Motors: Theory and Application  
Electric Lighting  
Conduit Bending  
Nine Grounding and Bonding  
Circuit Breakers and Fuses  
Control Systems and Fundamental Concepts  
Conductor Termination and Splices  
Pull and Junction Boxes  
Conduit Installations  
Seven Cable Tray

### **LEVEL 3**

Load Calculations- Branch and Feeder Circuit  
Two Conductor Selecting and Calculations  
Three Practical Applications of Lighting  
Hazardous Locations  
Over current Protection  
Distribution Equipment  
Transformers  
Commercial Electrical Services  
Motor Calculations Voice, Data, and Video  
Motor Controls

### **LEVEL 4**

Load Calculations- Feeders and Services  
Health Care Facilities  
Standby and Emergency Systems  
Basic Electronic Theory  
Alarm Systems  
Specialty Transformers  
Advanced Controls  
AC Controls  
Heal Tracing and Freeze Protection  
Motor Operations and Maintenance  
Medium-Volt Terminations/Splices  
Special Locations  
Fundamentals of Crew Leadership

## 8. Electronics

In this course, the instructor lectures and demonstrates the technical tools of the electronics technician vocation, including, among other aspects of electronics, low voltage, DC circuits, grounding, buses, networks, maintenance, repair, audio systems and security systems. Students also develop hands-on skills in electronics. The program requires at least a one (1) year commitment after which students will obtain certifications as an Electronics Systems Technician. This program consists of three levels of certification in networking, cable, and fiber optic technology. The certifications are by the National Center for Construction and Educational Research (NCCER). NCCER is a not-for-profit 501(c) (3) construction education foundation created in 1996. There are currently twenty-seven (27) students with three teacher aides.

The Electronics program consists of five levels of training and practice: core, and levels 1-4. Textbooks are from the NCCER Contren® Learning Series. The program prepares students to become Electrical and Electronic Engineering Technicians.<sup>18</sup> The mean pay rate for this occupation is \$31.78 per hour in California, where it was projected to have an average of 470 openings per year between 2012 and 2022. Details of course content are set forth in **FIGURE 8**.

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<sup>18</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 17-3023 in California.

## **FIGURE 8 – ELECTRONICS COURSE CONTENT**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### **LEVEL 1**

Introduction to the Trade  
Construction Methods 1  
Construction Methods 2  
Four Pathways and Spaces  
Mathematics  
Hand Bending Conduit  
National Electric Code  
Low Voltage Cabling

### **LEVEL 2**

DC Circuits  
AC Circuits  
Switches and Timers  
Semiconductors IC  
Test Equipment  
Six Drawings  
Codes and Standards  
Cable Selection  
Cable Terminations  
Grounding

### **LEVEL 3**

Buses and Networks  
Fiber Optics  
Wireless Communication  
Project Planning  
Crew Leadership  
Rack Assembly  
Systems Commissioning  
Maintenance and Repair

### **LEVEL 4**

Audio Systems  
Video Systems  
Broadband Systems  
Media Systems  
Telecommunications  
Network Systems  
Call Security Systems

## **9. Heating, Ventilation, Air Conditioning (HVAC)**

The HVAC course teaches enrolled inmates the technical aspects of heating, ventilation, air-conditioning and refrigeration mechanics, while at the same time providing actual hands-on opportunities to practice their newly learned skills on small scale construction projects. The course requires a one-year commitment to complete and is certified by the National Center for Construction and Educational Research (NCCER). NCCER is a not-for-profit 501(c) (3) construction education foundation created in 1996. At present, the class is comprised of an instructor, 27 students and 3 teaching aides.

The HVAC training consists of five levels of study and practice. The textbooks used are from the NCCER Contren® Learning Series. The five levels are referred to as the “CORE” level and levels one through four. This course prepares students to become Heating/Air Conditioning and Refrigeration Workers<sup>19</sup> after a minimum of 12 months of on-the-job training. The mean pay rate for workers in this occupation is \$26 per hour in California, where it was projected to have an average of 970 openings each year between 2012 and 2022.

This course also prepares students to become Construction Laborers<sup>20</sup> after moderate-term (1-12 months) on-the-job training. The mean pay rate for workers in this occupation is \$20 per hour in California, where it was projected to have an average of 5510 job openings/year between 2012 and 2022. Course content is set forth in **FIGURE 9.**

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<sup>19</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification in California.

<sup>20</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2061 in California.

## FIGURE 9 - HVAC COURSE CONTENT

### CORE

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### LEVEL 1

Introduction to HVAC  
Trade Mathematics  
Copper and Plastic Piping Practices  
Soldering and Brazing  
Ferrous Metal Piping Practices  
Basic Electricity  
Introduction to Cooling  
Introduction to Heating  
Water Treatment!

### LEVEL 2

Commercial Airside Systems  
Chimneys, Vents, and Flues  
Introduction to Hydronic Systems  
Air Quality Equipment  
Leak Detection, Evacuation, Recovery, and Charging  
Alternating Current  
Basic Electronics  
Introduction to Control Circuit  
Troubleshooting  
Troubleshooting Gas Heating  
Troubleshooting Cooling  
Eleven Heat Pumps  
Basic Installation and Maintenance Practices  
Sheet Metal Duct Systems  
Fiberglass and Flexible Duct Systems

### LEVEL 3

Refrigerants and Oils  
Compressors  
Metering Devices  
Retail Refrigeration Systems  
Commercial Hydraulic Systems  
Steam Systems  
Planned Maintenance  
Troubleshooting Electronic Controls  
Troubleshooting Oil Heating  
Troubleshooting Heat Pumps  
Troubleshooting Accessories

### LEVEL 4

Construction drawings and specifications  
System balancing  
Indoor air quality  
Energy conservation equipment  
Building maintenance systems  
System startup and shutdown  
Heating and cooling system design  
Commercial and industrial refrigeration  
Alternative heating and cooling systems  
Introduction to supervisory skills

## **10. Masonry**

Masonry students learn a variety of skills; including basic bricklaying, block construction, preparing mortar, spreading, cutting and furrowing, buttering joints, and understanding wall structures. The student learns how to construct fire places and benches and to erect pillars. Top skills used in this job are active listening, coordination and operation monitoring. The student also learns how to perform tasks involving physical labor at building, highway, and heavy construction project sites, tunnel and shaft excavations and demolition sites. Techniques are developed for smoothing and finishing surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs, using a variety of hand and power tools. This one year course accommodates 27 students, and is taught by an instructor and three teaching aides. The course consists of four components, including the Core component and three skill levels. Details of course content are set forth in **FIGURE 10.**

The course prepares students to become Cement Masons and Concrete Finishers.<sup>21</sup> Employers usually expect a person in this occupation to do the job after a minimum of 12 months of on-the-job training. The mean pay rate for this occupation is \$23.95 per hour in California, where it was projected to have 750 job openings each year from 2012 to 2022.

The course also prepares students to become Construction Laborers<sup>22</sup>. Employers usually expect a person in this occupation to do the job after 1 to 12 months of on-the-job training. The mean pay rate for this occupation is \$20.35 per hour in California, where it was projected to have 5,510 job openings each year through 2022.

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<sup>21</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2051 in California.

<sup>22</sup> 47-2061.

## **FIGURE 10 - MASONRY COURSE CONTENT**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### **LEVEL 1**

Introduction to Masonry  
Masonry Tools and Equipment  
Measurements, Drawings, and  
Specifications  
Mortar  
Masonry Units and Installation  
Techniques

### **LEVEL 2**

Residential Plans and Drawing  
Interpretation  
Residential Masonry  
Grout and Other Reinforcement  
Metal Work in Masonry  
Advanced Laying Techniques  
Construction Techniques and Moisture  
Control  
Construction Inspection and Quality  
Control

### **LEVEL 3**

Masonry in High Rise Construction  
Specialized Materials and Techniques  
Repair and Restoration  
Commercial Drawing  
Estimating  
Site Layout- Distance Measurement  
Introductory Skills for Crew Leader



## 11. Plumbing

In this course, the instructor lectures and demonstrates the technical tools of the plumbing trade, including water distribution, drain, waste, vent, and gas pipe systems. Students learn how to set fixtures and read basic plumbing blueprints. They also have the opportunity to learn hands-on skills on small scale construction related projects. The class requires a one-year commitment to complete and is certified by the National Center for Construction and Educational Research (NCCER). NCCER is a not-for-profit 501(c) (3) construction education foundation created in 1996. At present, the class is comprised of an instructor, 27 students and 3 teaching aides.

Plumbing training consists of five levels of study and practice. The textbooks used are from the NCCER Contren® Learning Series. The five levels are referred to as the “CORE” level and levels one through four. The course prepares students to become Plumbers, Pipefitters, and Steamfitters<sup>23</sup> after a minimum of 12 months of on-the-job training. The mean pay rate for this occupation is \$30.29 per hour in California, where it was projected to have an average of 1250 openings/year (between 2012 and 2022.) This course also prepares students to become Construction Laborers<sup>24</sup> after a moderate term (1-12 months) of on-the-job training. The mean pay rate for workers in this Occupation is \$20.35 per hour in California, where it was projected to have an average of 5510 job openings each year between 2012 and 2022. Details of course content are set forth in **FIGURE 11**.

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<sup>23</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2152 in California.

<sup>24</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 47-2061 in California.

## **FIGURE 11 – PLUMBING COURSE CONTENT**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials

### **LEVEL 1**

Introduction to the Plumbing Profession  
Plumbing Safety  
Tools of the Plumbing Trade  
Introduction to Plumbing Math  
Introduction to Plumbing Drawings  
Plastic Pipe and Fittings  
Copper Tube and Fittings  
Cast iron Pipe and Fittings  
Carbon Steel Pipe and Fittings  
Introduction to Plumbing Fixtures  
Introduction to Drain, Waste, Vent Systems  
Introduction to Water Distribution Systems

### **LEVEL 2**

Plumbing Math Two  
Reading Commercial Drawings  
Hangers, Supports, Structural Penetrations, Fire Stopping  
Installing and Testing DWV Piping  
Installing Roof, Floor, and Area Drains  
Types of Venting  
Installing and Testing Water Supply Piping  
Installing Fixtures, Values, and Facets  
Introduction to Electricity  
Installing Water Heaters  
Fuel Gas Systems  
Servicing of Fixtures, Values, and Facets

### **LEVEL 3**

Applied Math  
Sizing Water Supply Piping  
Potable Water Treatment  
Backflow Preventers  
Types of Venting  
Sizing DWV and Storm Systems  
Sewage Pumps and Sump Pumps  
Corrosive-Resistant Waste Piping  
Compressed Air

### **LEVEL 4**

Business Principles for Plumbing  
Introductory Skills for the Crew Leader  
Water Pressure Booster  
Indirect and Special Waste  
Hydronic and Solar Heating System Codes  
Servicing Piping Systems Fixtures, and Appliances  
Private Water Supply Well Systems  
Private Waste Disposal Systems  
Summarizing Pools and Hot Tubs  
Plumbing for Mobile Homes

## **12. Small Engine Repair**

This course teaches enrolled inmates (students) the manipulative and mental skills necessary to troubleshoot, evaluate, disassemble, repair and reassemble non-automotive machinery and small engines such as lawn mowers, generators, weed-eaters, chain saws, and motor cycles. Four Stroke, Two Stroke and Associated Electrical Certifications are through the nationally accredited Equipment & Engine Training Councils (E.E.T.C). Course completion takes from six months to one year. The class has two teaching aides to assist the instructor and 27 students.

Students completing this course are employable as Outdoor Power Equipment Mechanics.<sup>25</sup> Employers generally expect individuals in this occupation to be able to successfully perform the work after one to twelve months of on-the-job training. The mean pay rate for workers in this occupation is \$17.66 per hour in California, where it was projected to have an average of 60 openings each year between 2012 and 2022. The small engine course consists of a CORE section followed by three additional levels of instruction. Details of course content are set forth in **FIGURE 12**.

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<sup>25</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 49-3053 in California.

## **FIGURE 12 – SMALL ENGINE REPAIR COURSE COMPONENTS**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employable Skills  
Introduction to Materials Handling

### **LEVEL 1**

Introduction to Small Engine Repair  
Small Engine Repair Tools & Equipment  
Measurements, Drawings & Mortar  
Small Engine Repair Units & Installation

### **LEVEL 2**

Residential Plans & Drawing Interpretation  
Residential Small Engine Repair  
Introduction to Hand Tools  
Grout and Other Reinforcement  
Metal Work in Small Engine Repair  
Advanced Laying Techniques  
Construction Techniques & Moisture Control  
Construction Inspection & Quality Control

### **LEVEL 3**

Small Engine Repair in High Rise Construction  
Specialized Materials & Techniques  
Repair and Restoration  
Commercial Drawing  
Estimating Specifications Site Layout-  
Distance Measurement & Leveling  
Introductory Skills for Level Crew Leader

### **13. Welding**

The Welding vocation consists of training in CORE subjects and has three (3) additional levels for the student to complete. Among other skills, the curriculum includes the use of riggings, power tools, and various methods for welding all types of metal. The subject matter and necessary hands-on skills may take one or more years to master. In addition to the instructor, the class has 27 students and three teaching aides.

Students are eligible to receive National Center for Construction and Education Research (NCCER) certification. In addition to the NCCER Certificate, students can also be certified in Shielded Metal Arc Welding (SMAW), Flux Core Arc Welding (FCAW), Gas Metal Arc Welding (GMAW), and Gas Tungsten Arc Welding (GTAW). The course prepares students for the occupations of Structural Metal Fabricators and Fitters<sup>26</sup>, and Welders, Cutters, Solderers, and Brazers.<sup>27</sup>

Structural Metal Fabricators and Fitters have a mean pay rate of \$19.61 per hour in California, where this occupation was projected to have an average of 290 openings each year between 2012 and 2022.

Welders, Cutters, Solderers, and Brazers have a mean pay rate of \$20.81 per hour in California, where this occupation was projected to have an average of 770 openings each year between 2012 and 2022. Details of course content are set forth in

**FIGURE 13.**

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<sup>26</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 51-2041 in California.

<sup>27</sup> United States Department of Labor, Bureau of Labor Statistics, Standard Occupational Classification 51-4121 in California.

## **FIGURE 13 – WELDING COURSE COMPONENTS**

### **CORE**

Basic Safety  
Introduction to Construction Math  
Introduction to Hand Tools  
Introduction to Power Tools  
Introduction to Construction Drawing  
Basic Rigging  
Basic Communication Skills  
Basic Employability Skills  
Introduction to Materials Handling

### **LEVEL 1**

Welding Safety  
Oxyfuel Cutting  
Plasma Arc Cutting  
Air Carbon Arc Cutting and Gouging  
Base Metal Preparation  
Weld Quality  
SMA W Equipment Setup  
Shield Metal Arc Electrodes  
SMAW Beads/Fillet Welds  
Joint-Fit Up & Alignment  
SMAW Groove Welds with Backing  
SMAW Open V-Groove Welds

### **LEVEL 2**

Welding Symbols  
Reading Welding Detail Drawings  
Physical Characteristics and Mechanical Properties of Metal  
Reheating and Post Heating of Metals  
GMA W /PCA W Equipment and Filler Metals  
GTAW/ FCAW: Plate  
GTAW: Equipment and Filler Metals  
GTAW: Plate

### **LEVEL 3**

SMAW Open Root Pipe Welds  
Pipe  
FCAW Pipe  
GTAW-Carbon Steel Pipe  
Low Alloy & Stainless Steel Pipe  
Stainless Steel Groove Welds

## **FINDINGS**

- F1. The scope of Academic, Vocational and Re-Entry programs at the California Correction Facility is commendably broad.
- F2. The content of the Academic, Vocational and Re-Entry programs at the California Correction Facility is impressive.
- F3. Program leaders and course instructors appear to be well qualified to provide the necessary leadership and instruction in regard to their respective roles.

## **RECOMMENDATIONS**

None.

