work2future

Skills Gap Analysis

April 2013

[bw] **RESEARCH PARTNERSHIP**

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EXECUTIVE SUMMARY

San Jose is at the epicenter of the global innovation economy and the nation's post-recession recovery. Since unemployment peaked in January 2010 at 12%, Silicon Valley has shown strong job gains, now eclipsing its own job-creating prowess of the dot-com era. As a result, unemployment is now at its lowest level since 2008 at 7.6%.

The recovery however – both nationally and in the San Jose region – has not been even. The jobs that have returned are bifurcated by earnings and income disparity grows. Even as the overall economy grew by 2.6% over the period (2008-2013), the profile of those jobs demonstrates an alarming trend, with further declines in middle-class job opportunities.

Despite the overall middle-tier employment declines, there are, however, several industries that project to grow substantially, including:

- Information and Communications Technologies (ICT)

- Healthcare

- Advanced Manufacturing

- Building Design and Energy Efficiency.

Below are the targeted recommendations for the regional public workforce system, customized for each cluster based on a substantive review of the occupational profiles developed for this report.

Information and Communications Technologies (ICT)

- Focus training on professional certifications, such as the CompTIA, Microsoft, Cisco, and Oracle suite

- Encourage multiple certifications rather than one-off credentialing

- Provide flexibility and agility training that reflects the reality of the 21st century tech workforce

- Develop incumbent worker training to up-skill existing tech employees.

Healthcare

- Offer introductory coursework on the healthcare industry (and business models)

- Focus training on advanced CPR and first-aid courses

- Train workers on medical terminology and communication skills, including bed-side manner

- Connect training programs to college credit for career advancement

- Partner with local healthcare providers to offer incumbent worker training.

Manufacturing (Non-ICT)

- Focus on experiential learning through internships and co-ops

- Key training to professional certifications including NIMS and MSCC

- Partner with businesses to offer technology-specific training

- Promote importance of computer skills and quality control.

Building Design and Energy Efficiency

- Offer Building Performance Institute (BPI) training for entry-level workers

- Provide more advanced BPI and CMA certifications for low- to middle-skill workers

- Partner with local businesses to offer apprentices and on-the-job training

- Provide pre-apprenticeship training in the trades

- Offer entrepreneurship courses for new and existing workers.

INTRODUCTION

Silicon Valley has long been seen as the bellwether of the nation's technology economy, but few expected it to lead the country from recession. Since unemployment peaked in January 2010 at 12%,[1] Silicon Valley has shown strong job gains, now eclipsing its own job-creating prowess of the dot-com era.[2] As a result, unemployment is now at its lowest level since 2008 at 7.6%.[3]

The recovery however – both nationally and in the San Jose region – has not been even. The jobs that have returned are bifurcated by earnings and income disparity grows.[4] Even as the overall economy grew by 2.6%[5] over the period (2008-2013), the profile of those jobs demonstrates an alarming trend.

Over the decline-recovery period of 2008-2013, Tier 3 jobs, which require little to no education and training, have grown by 5.1%, resulting in over 13,500 new jobs that pay average earnings of $12.09 per hour. During the same period, Tier 1 jobs, or those requiring a Bachelor's degree or more, grew by 4.0%, creating over 11,000 jobs with average earnings of $46.71 per hour. Tier 2 jobs, or those that require some education beyond high school and pay a living wage (average earnings of $23.34 per hour), have declined by 0.7% over the period, shedding over 3,300 jobs.[6]

While job gains have been slow for most of the nation following the Great Recession, the San Jose region has been adding jobs at a rapid clip. However, daunting challenges remain for many of the region's longer-term unemployed and lower-skilled workers. Many of the new jobs that have been created require different – and significantly more skills than those they replaced.

BW Research Partnership, Inc. (BW Research) partnered with work2future to conduct research on key skill gaps in Silicon Valley with particular emphasis on the City of San José and Santa Clara County. The primary research objectives of the study were to identify skill gaps in occupations that can be filled with short-term training in San Jose's key industries. Criteria for selection included:

- Number of annual job openings;

- Short-term duration of training;

- Potential for career advancement; and

- Employment within a key growth economy in Silicon Valley.

The findings of this research were based on an extensive examination of established labor market data and direct feedback gathered from Silicon Valley's employers and stakeholders across a number of research studies.

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[1] Bureau of Labor Statistics
[2] 2013 Silicon Valley Index
[3] Bureau of Labor Statistics
[4] 2013 Silicon Valley Index
[5] EMSI Complete Employment 2013.1
[6] *Id.*

This report answers four foundational questions:

1 Which industries and occupations present the best opportunities for up-skilling work2future clients?

2 What are the key entry-level skills that are required for the occupations?

3 What are the intermediate skills in each occupation that are required for career advancement?

4 What training currently exists to bridge these skill gaps and what role could work2future play in up-skilling job seekers?

Based on our comprehensive assessment of previous reports and secondary data from the region, we have selected the following four industries for study: [7]

- Healthcare

- Information and Communications Technologies

- Advanced Manufacturing

- Building Design and Engineering.

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[7] Descriptions of occupational categories are taken from the Bureau of Labor Statistics (BLS) Occupational Employment Statistics website: http://www.bls.gov/oes/home.htm and the U.S. Department of Labor's O*NET Online website: http://www.onetonline.org/. Activities or skills for each occupational category are sourced from the detailed work activities (DWAs) provided by the Texas Workforce Commission's Strategic Workforce Assessment (SWAP) website: http://www.texasindustryprofiles.com/apps/swap/. Median earnings are taken from EMSI Complete Employment 2013.1 estimates for Silicon Valley. Training providers are collected from EMSI or the Virtual Career Network (VCN) Healthcare website: https://www.vcn.org/Healthcare/.

INFORMATION AND COMMUNICATIONS TECHNOLOGIES (ICT)

Silicon Valley is world renowned for its vibrant cluster of ICT companies. The ICT cluster is dynamic and fast growing, representing the lions share of job gains in the region over the last few years; the primary ICT industries added 28,137 new jobs from 2009-2012.[8]

This represents 30% of all new jobs in the region over the period.

Despite these impressive gains, ICT may be the most challenging sector in terms of skill gaps due to the rapid pace of change that is its hallmark. However, entry-level opportunities are available and with the right skills, can provide long-term careers.

It is important to note that very few ICT occupations are "low skill" and that the entry point for ICT career lattices is considerably higher than that in other sectors.

Entry-Level ICT Occupations

- Computer Operators
- Computer User Support Specialists
- Computer Network Support Specialists

Intermediate ICT Occupations

- Network and Computer Systems Administrators
- Information Security Analysts
- Computer Systems Analysts
- Database Administrators

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[8] EMSI Complete Employment 2013.1

Entry-Level ICT Occupations

Computer Operators

Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. Monitor and respond to operating and error messages. May enter commands at a computer terminal and set controls on computer and peripheral devices.

$24.53 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Computer Operators

- Operate computers to enter, calculate, access, and retrieve data
- Maintain records, reports, files, listings, or logs
- Ability to operate alpha or numeric mail sorting systems
- Ability to transcribe spoken or written information or data
- Monitor use of computer data files to safeguard information
- Ensure correct grammar, punctuation, or spelling in written communication

Key Credentials & Certifications

- CompTIA A+
- CompTIA Green IT
- ComptTIA Cloud Essentials
- Cisco CCENT
- Microsoft Technology Associate Development Fundamentals

Targeted Recommendations

- Offer entry-level IT training
- Provide test preparation for CompTIA A+ and other credentials
- Provide IT business overview modules, as well as flexibility and agility training
- Fully describe credential pathways to potential clients

Computer User Support Specialists

Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.

$33.38 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Computer User Support Specialists

- Operate computers to enter, calculate, access, and retrieve data
- Maintain records, reports, files, listings, or logs
- Ability to operate alpha or numeric mail sorting systems
- Ability to transcribe spoken or written information or data
- Monitor use of computer data files to safeguard information
- Ensure correct grammar, punctuation, or spelling in written communication

Key Credentials & Certifications

- CompTIA A+
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Targeted Recommendations

- Offer entry-level IT training
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- Fully describe credential pathways to potential clients

Computer Network Support Specialists

Analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WANs), and Internet systems and segments of a network system. Computer Network Support Specialists also perform maintenance to ensure networks operate correctly.

$26.54 **Median hourly wage** in California in 2011[9]

Top Activities or Skills of Computer Network Support Specialists

- Ability to perform software crash analysis
- Program computer numerical controlled machines
- Network computers for data, communications, and work sharing
- Store data to avoid data loss or ensure data security
- Analyze computer systems using analysis techniques
- Ability to communicate technical or scientific information
- Design computer hardware or software interfaces

Key Credentials & Certifications

- Cisco CCENT
- CompTIA Network +

Targeted Recommendations

- Provide test preparation courses
- Offer flexibility, agility, and IT business courses
- Develop cohort training for A+ graduates

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[9] Median hourly earnings unavailable for Silicon Valley, median hourly wage for California sourced from the U.S. Department of Labor's ONET OnLine website: http://www.onetonline.org

Regional Training Providers for Entry-Level ICT Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
Cañada College	Administrative Assistant and Secretarial Science, General	Award of less than 1 academic year
Cañada College	Computer and Information Systems Security/Information Assurance	Award of less than 1 academic year
College of San Mateo	Administrative Assistant and Secretarial Science, General	Award of less than 1 academic year
College of San Mateo	Computer and Information Systems Security/Information Assurance	Award of less than 1 academic year
Foothill College	Administrative Assistant and Secretarial Science, General	Award of less than 1 academic year
Skyline College	Computer and Information Systems Security/Information Assurance	Award of less than 1 academic year
West Valley College	Administrative Assistant and Secretarial Science, General	Award of less than 1 academic year
Evergreen Valley College	Administrative Assistant and Secretarial Science, General	Associates degree, Award of less than 1 academic year
Gavilan College	Administrative Assistant and Secretarial Science, General	Associates degree, Award of less than 1 academic year
Mission College	Administrative Assistant and Secretarial Science, General	Associates degree, Award of less than 1 academic year
De Anza College	Administrative Assistant and Secretarial Science, General	Associates degree, Award of less than 1 academic year, Award of at least 1 but less than 2 academic years
San Jose City College	Administrative Assistant and Secretarial Science, General	Associates degree, Award of less than 1 academic year, Award of at least 1 but less than 2 academic years
De Anza College	Computer Support Specialist	Associate's degree
Foothill College	Computer and Information Sciences, General	Associates degree
Heald College-San Jose	Computer and Information Systems Security/Information Assurance	Associate's degree
Notre Dame de Namur University	Computer and Information Sciences, General	Bachelor's degree
University of Phoenix-Bay Area Campus	Computer and Information Sciences, General	Bachelor's degree
University of Phoenix-Bay Area Campus	Computer and Information Systems Security/Information Assurance	Bachelor's degree

Intermediate ICT Occupations

Network & Computer Systems Administrators

Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test website performance to ensure websites operate correctly and without interruption. Network and Computer Systems Administrators may assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer network security measures.

$45.91   **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Network & Computer Systems Administrators

- Perform software crash analysis
- Program computer numerical controlled machines
- Ability to network computers for data, communications, and work sharing
- Analyze computer systems using analysis techniques
- Ability to communicate technical or scientific information
- Design data security systems
- Design hardware or software systems

Key Credentials & Certifications

- CompTIA Network +
- CompTIA Server +
- CompTIA Security +
- CompTIA Linux +
- CompTIA Storage +
- Microsoft MCTS Windows
- Cisco CCNA
- Red Hat Certified System Administrator

Targeted Recommendations

- Develop stackable credential pathways
- Package training for 2-3 credentials
- Offer incumbent worker training or target entry-level workers

Information Security Analysts

Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.

$45.31 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Information Security Analysts

- Analyze effectiveness of safety systems or procedures
- Ability to network computers for data, communications, and work sharing
- Store data to avoid data loss or ensure data security
- Assist personnel or customers with software or hardware problems
- Ability to collect statistical data
- Use oral or written communication techniques
- Analyze computer systems using analysis techniques

Key Credentials & Certifications

- CompTIA Network +
- CompTIA Server +
- CompTIA Security +
- CompTIA Storage +
- CompTIA Linux +
- Microsoft MCTS Windows

Targeted Recommendations

- Develop stackable credential pathways
- Package training for 2-3 credentials
- Offer incumbent worker training or target entry-level workers

Computer Systems Analysts

Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.

$45.22 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Computer Systems Analysts

- Perform software crash analysis
- Program computer numerical controlled machines
- Ability to network computers for data, communications, and work sharing
- Store data to avoid data loss or ensure data security
- Analyze computer systems using analysis techniques
- Communicate technical or scientific information
- Design computer hardware or software interface

Key Credentials & Certifications

- CompTIA Network +
- CompTIA Server +
- CompTIA Security +
- CompTIA Linux +
- CompTIA Storage +
- Microsoft MCTS Windows
- Microsoft Database Administrator
- Cisco CCNA
- Red Hat Certified System Administrator
- Oracle Certified Associate

Targeted Recommendations

- Develop stackable credential pathways
- Package training for 2-3 credentials
- Offer incumbent worker training or target entry-level workers

Database Administrators

Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases.

$48.88 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Database Administrators

- Ability to program computer numerical controlled machines
- Network computers for data, communications, and work sharing
- Store data to avoid data loss or ensure data security
- Ability to analyze computer systems using analysis techniques
- Communicate technical or scientific information
- Design computer hardware or software interface
- Design computer programs or programming tools

Key Credentials & Certifications

- Microsoft Database Administrator
- Oracle Certified Associate

Targeted Recommendations

- Develop stackable credential pathways
- Package training for 2-3 credentials
- Offer incumbent worker training or target entry-level workers

Regional Training Providers for Intermediate ICT Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
Cañada College	Computer and Information Systems Security/Information Assurance	Award of less than 1 academic year
College of San Mateo	Computer and Information Systems Security/Information Assurance	Award of less than 1 academic year
College of San Mateo	Computer Science	Award of less than 1 academic year
De Anza College	Data Modeling/Warehousing and Database Administration	Award of less than 1 academic year
Skyline College	Computer Science	Award of less than 1 academic year
Skyline College	Computer and Information Systems Security/Information Assurance	Award of less than 1 academic year
De Anza College	Computer Systems Networking and Telecommunications	Associate's degree, Award of less than 1 academic year
Foothill College	Data Modeling/Warehousing and Database Administration	Associate's degree, Award of less than 1 academic year
Gavilan College	Computer Systems Networking and Telecommunications	Associate's degree, Award of less than 1 academic year
Cañada College	Computer Systems Networking and Telecommunications	Associate's degree
Cañada College	Computer Science	Associate's degree
Evergreen Valley College	Information Technology	Associate's degree
Foothill College	Computer and Information Sciences, General	Associate's degree
Foothill College	Computer Systems Networking and Telecommunications	Associate's degree
Foothill College	Computer Science	Associate's degree
Gavilan College	Information Technology	Associate's degree
Heald College-San Jose	Computer and Information Systems Security/Information Assurance	Associate's degree
San Jose City College	Computer Systems Networking and Telecommunications	Associate's degree
Notre Dame de Namur University	Computer and Information Sciences, General	Bachelor's degree
University of Phoenix-Bay Area Campus	Computer and Information Systems Security/Information Assurance	Bachelor's degree
University of Phoenix-Bay Area Campus	Computer Systems Networking and Telecommunications	Bachelor's degree
University of Phoenix-Bay Area Campus	Computer and Information Sciences, General	Bachelor's degree

Regional Training Providers for Intermediate ICT Occupations (cont.)

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
San Jose State University	Computer Science	Master's degree, Bachelor's degree
International Technological University	Computer Science	Master's degree
Stanford University	Computer Science	Doctorate degree, Master's degree, Bachelor's degree

HEALTHCARE

In Silicon Valley, Healthcare employment accounts for about one in every seven jobs within the region. Unlike many of Silicon Valley's leading employment clusters, Healthcare is considered a mature industry that has been long-established as a key employer within the region as well as within the nation. Healthcare provides a broad range of occupational opportunities from high paying, high skills positions such as physicians to entry-level positions like Personal Care Aides. The industry has also shown steady, consistent growth in employment at a time when the rest of the economy has been rocked by significant downturns and slow recovery.

It is important to note that healthcare occupations often require certification and licensure so programs should include appropriate preparation for examination.

Entry-Level Healthcare Occupations

- Personal Care Aides
- Home Health Aides
- Medical Secretaries
- Medical Assistants
- Receptionists and Information Clerks

Intermediate Healthcare Occupations

- LPNs and LVNs
- Health Technicians and Technologists
- Radiologic Technicians and Technologists
- Registered Nurses

Entry-Level Healthcare Occupations

Personal Care Aides

Assist the elderly, convalescent, or persons with disabilities at their location of residence or residential care facilities. May assist with bathing or feeding at the patient's home or living care facility and provide guidance for the patient or family regarding cleanliness, nutrition, and household activities.

$12.06 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Personal Care Aides

- Assisting clients with understanding of personal or interactive problems
- Ability to provide first aid
- Ability to teach patients personal hygiene techniques
- Communication of health and safety information
- Care for mentally ill or disabled individuals
- Plan and cook meals for customers or patients

Key Credentials & Certifications

- First Aid/CPR

Targeted Recommendations

- Provide introduction to healthcare training
- Offer career-oriented, advanced first aid and CPR courses
- Promote interpersonal communication skills
- Provide instruction on medical terminology

Home Health Aides

Provide routine medical care such as cleaning wounds and replacing bandages, as well as placement of topical medications to the elderly, convalescent, or persons with disabilities. Home health aides monitor and report changes in health status and may provide personal care related to hygiene.

$11.04 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Home Health Aides

- Ability to fit patients with a prosthetic device
- Teach principles of medicine or laboratory procedures
- Must be able to administer medications, treatments, or injections
- Observation of patient or client medical condition
- Ability to provide first aid
- Care for mentally ill or disabled individuals

Key Credentials & Certifications

- First Aid/CPR

Targeted Recommendations

- Provide introduction to healthcare training
- Offer career-oriented, advanced first aid and CPR courses
- Promote interpersonal communication skills
- Provide instruction on medical terminology

Medical Secretaries

Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Medical secretaries may also be responsible for scheduling appointments, billing patients, filing and compiling medical records, medical charts, reports, and correspondence.

$18.88 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Medical Secretaries

- Delegation of appropriate administrative support activities
- Maintain confidentiality of information
- Ability to prepare technical, managerial, financial, or informational reports
- Maintain records, files, reports, logs, or listings
- Prepare billing statements
- Preparation of government, business, or other forms
- Ability to communicate with medical staff and patients

Key Credentials & Certifications

- Medical Secretary Certification

Targeted Recommendations

- Offer medical terminology classes
- Enhance existing administrative assistant courses on by including medical terminology
- Develop medical secretary certification course including:
  - o Lab procedures
  - o Office insurance and finance
  - o Administrative procedures
  - o Medical law, professionalism and ethics
  - o Psychology of human relations
  - o Computing in healthcare
  - o Medical terminology
  - o Clinical procedures
  - o Pharmacology
  - o Customer service in healthcare

Medical Assistants

Medical Assistants perform administrative and clinical duties under the supervision of a physician. Administrative duties include scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes. Clinical duties may include taking and recording any vital signs and medical histories, drawing blood, and preparing patients for medical examinations.

$18.79 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Medical Assistants

- Construction of medical supportive devices
- Ability to fit patients with a prosthetic device
- Use knowledge of medical terminology
- Educate patients in use of supportive or health-related devices
- Ability to process medical records
- Ability to diagnose medical condition of patients
- Perform noninvasive or invasive medical diagnostic techniques

Key Credentials & Certifications

- Certified Medical Assistant (AAMA)

Targeted Recommendations

- Offer medical assistant training with CMA test preparation
- Provide CMA test preparation for existing medical assistants
- Partner with community clinics for incumbent worker training for certification

Receptionists and Information Clerks

Receptionists and Information Clerks answer inquiries or provide information to the general public, customers, visitors, and other interested parties regarding activities conducted at an establishment and locations of departments, offices, and employees within the organization (in this case medical establishments).

$16.70 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Receptionists and Information Clerks

- Ability to operate computers to enter, access, calculate, and retrieve data
- Maintain records, reports, files, listings, or logs
- Ability to fill out business, government, or other forms
- Answer questions from employees, colleagues, patients, or public
- Maintain patient and account records
- Ability to examine documents or files to obtain information
- Obtain information from colleagues, employees, and patients

Key Credentials & Certifications

- Medical Coding (AAPC or AHIMA)
- Registered Health Information Technicians (RHIT)
- Associate Degree

Targeted Recommendations

- Offer entry-level medical coding and HIT courses with certification exam preparation included
- Ensure programs have pathways to college and credits are transferable to local community colleges

Regional Training Providers for Entry-Level Healthcare Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
Cabrillo College	Medical Administrative Assistant	Award of at least 1 but less than 4 academic years
Cabrillo College	Medical Assistant	Award of at least 1 but less than 4 academic years
Cabrillo College	Medical Insurance Specialist	Award of at least 1 but less than 4 academic years
Cañada College	Medical Assistant	Award of at least 1 but less than 4 academic years
Cañada College	Medical Coding Specialist	Award of at least 1 but less than 4 academic years
De Anza College	Insurance Coding Specialist	Award of at least 1 but less than 4 academic years
De Anza College	Medical Reception	Award of at least 1 but less than 4 academic years
De Anza College	Medical Secretary	Award of at least 1 but less than 4 academic years
Foothill College	Geriatric Home Aide – Non-Credit	Award of at least 1 but less than 4 academic years
Foothill College	Medical Coding	Award of at least 1 but less than 4 academic years
Foothill College	Medical Reception	Award of at least 1 but less than 4 academic years
Foothill College	Medical Secretary	Award of at least 1 but less than 4 academic years
Gavilan College	Home Health Aide	Award of at least 1 but less than 4 academic years
Las Positas College	Administrative Medical Assistant	Award of at least 1 but less than 4 academic years
Las Positas College	Medical Record Clerk I & II	Award of at least 1 but less than 4 academic years
Mission College	Home Health Aide	Award of at least 1 but less than 4 academic years
Mission College	IV Insertion	Award of at least 1 but less than 4 academic years
Mission College	Medical Coding and Billing	Award of at least 1 but less than 4 academic years
Mission College	Medical Office Assistant	Award of at least 1 but less than 4 academic years
Ohlone College	Administrative Medical Specialist w/ Medical Billing and Coding + Medical Terminology	Award of at least 1 but less than 4 academic years
Ohlone College	Advanced Coding for the Physician's Office	Award of at least 1 but less than 4 academic years

Regional Training Providers for Entry-Level Healthcare Occupations (cont.)

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
West Valley College	Advanced Coding for the Physician's Office	Award of at least 1 but less than 4 academic years
West Valley College	Medical Assistant	Award of at least 1 but less than 4 academic years
West Valley College	Medical Billing and Coding	Award of at least 1 but less than 4 academic years
Monterey Peninsula College	Medical Office Procedures	Associate's degree
San Jose City College	Medical Assistant - Administrative	Associate's degree

Intermediate Healthcare Occupations

Licensed Practical Nurses (LPNs) & Licensed Vocational Nurses (LVNs)

Licensed Practical and Licensed Vocational Nurses care for ill or injured persons, convalescent, and disabled persons in hospitals, clinics, nursing homes, private homes, or similar settings and can work under the supervision of a registered nurse.

$28.38 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Licensed Practical & Licensed Vocational Nurses

- Must maintain licenses, certifications, qualifications, and knowledge through continuing education activities

- Ability to understand and use medical terminology

- Able to communicate and understand technical and scientific information

- Analyze medical data

- Ability to collect clinical data

- Observation of patient or client condition

Key Credentials & Certifications

- Associate Degree

Targeted Recommendations

- Partner with local colleges to offer cost-effective incumbent worker training for CNAs and other medical personnel

Health Technologists and Technicians, All Other

The Health Technologists and Technicians occupational category includes Neurodiagnostic Technologists, Ophthalmic Medical Technologists, and Surgical Assistants.

$28.33 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Health Technologists and Technicians, All Other[10]

- Ability to care for or provide basic medical assistance for patients
- Able to communicate and understand technical and scientific information
- Ability to understand and use medical terminology
- Communication of health and safety information
- Prepare patients for tests, therapy, or treatments
- Communication of health and safety information
- Ability to write technical health or medical documents

Key Credentials & Certifications

- Associate Degree

Targeted Recommendations

- Offer incumbent worker training to CNAs, LVNs, and other entry-level allied health workers

Neurodiagnostic Technologists conduct electroneurodiagnostic (END) tests such as electroencephalograms, evoked potentials, polysomnograms, or electronystagmograms. They may also perform nerve conduction studies.

Ophthalmic Medical Technologists assist ophthalmologists by performing ophthalmic clinical functions and related photography. They may also provide information to other ophthalmic personnel. Ophthalmic Medical Technologists may also assist in surgical procedures and perform eye exams, administer eye medication, and instruct patients about corrective lenses.

Surgical Assistants assist surgeons during surgery with duties such as tissue extraction, insertion of tubes or intravenous lines, and closure of surgical wounds. They also perform preoperative and postoperative duties to facilitate patient care.

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[10] Since Health Technologists and Technicians is a broad occupational category, work activities and skills are pulled from clustered Healthcare occupations.

[bw] **RESEARCH PARTNERSHIP**

Radiologic Technologists and Technicians

Radiologic technologists and technicians produce X-ray films of human body parts for use in diagnosing medical problems. They prepare patients for examinations, position operating equipment, and set controls to ensure that the exam is appropriately administered. Radiologic technologists are responsible for recording, processing, and maintaining patient data and treatment records. Radiologic technicians are also tasked with maintaining X-ray equipment.

$40.94 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Radiologic Technologists and Technicians[11]

- Ability to care for or provide basic medical assistance for patients
- Safely use radiologic or magnetic imaging equipment while complying with government regulations
- Review and evaluate developed x-rays, video tape, or computer generated information
- Record thorough and accurate patient medical histories
- Position imaging equipment and adjust controls based on specification of examination
- Ability to oversee comfort of patients while positioning and immobilizing them on examination tables
- Understand and execute computer commands to document and specify scan sequences

Key Credentials & Certifications

- Associate Degree

Targeted Recommendations

- Offer incumbent worker training to CNAs, LVNs, and other entry-level allied health workers

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[11] Detailed work activities not available through the Texas Workforce Commission's Strategic Workforce Assessment Program (SWAP) website. Work activities were sourced from the U.S. Department of Labor's O*NET Online website: http://www.onetonline.org/.

Registered Nurses

Registered Nurses assess patient health issues and needs, develop and implement nursing care plans, and maintain accurate medical records. They administer nursing care to ill, injured, convalescent, or disabled patients. RNs may also advise patients on health maintenance and disease prevention or provide case management. In addition, nurses educate patients and the public about various medical conditions, and provide advice and emotional support to patients' family members. RNs record patients' medical histories and symptoms, help perform diagnostic tests and analyze results, operate medical machinery, administer treatment and medications, and help with patient follow-up and rehabilitation.

The Registered Nurses occupational category covers many subspecialties. Some of the high-demand specialties include:

- *Critical Care Nurses*- provide specialized care for critically-ill or seriously injured patients that require close monitoring and extensive medication protocols and therapies.
- *Emergency or Trauma Nurses* – provide initial assessment and care for patients with life threating conditions. Work in stand-alone emergency rooms or hospitals.
- *Informatics Nurse Specialists* – apply knowledge of nursing with informatics knowledge to assist in the design, development, and evolution of computerized Healthcare systems.

$58.13 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Registered Nurses

- Ability to diagnose medical condition of patients
- Perform minor surgery
- Ability to write technical health or medical documents
- Administer anesthetics to patients
- Educate patients in use of supportive or health-related devices
- Use knowledge of medical terminology
- Ability to research health improvement issues

Key Credentials & Certifications

- Associate Degree
- Bachelor Degree
- Master Degree

Targeted Recommendations

- Offer incumbent worker training to CNAs, LVNs, and other entry-level allied health workers

Regional Training Providers for Intermediate Healthcare Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
Foothill-De Anza Community College District	Primary Care Associate/Family Nurse Practitioners (FNP's) (Foothill), Perinatal Issues, End of Life Care	Award of at least 1 but less than 4 academic years
Gavilan College	Registered Nursing	Award of at least 1 but less than 4 academic years
Hartnell College	Vocational Nursing	Award of at least 1 but less than 4 academic years
Mission College	Clinician/Practitioner Consultant	Award of at least 1 but less than 4 academic years
Mission College	Vocational Nursing, Thirty Unit Option LVN	Award of at least 1 but less than 4 academic years
Las Positas College	Surgical Technology	Associate's degree, Award of at least 1 but less than 4 academic years
Merritt College	Radiologic Science	Associate's degree, Award of at least 1 but less than 4 academic years
Cabrillo College	Radiologic Technology	Associate's degree
Cañada College	Radiologic Technologist	Associate's degree
Chabot College	LVN to RN Nursing	Associate's degree
College of San Mateo	Nursing	Associate's degree
De Anza College	Registered Nursing	Associate's degree
Evergreen Valley College	Nursing	Associate's degree
Foothill College	Licensed Vocational Nurse Transition to Registered Nurse	Associate's degree
Foothill College	Primary Care	Associate's degree
Foothill College	Radiologic Technology	Associate's degree
Hartnell College	Registered Nursing	Associate's degree
Merritt College	Associate Degree Nursing (ADN)	Associate's degree
Merritt College	Licensed Vocational Nursing	Associate's degree
Mission College	LVN to RN Nursing	Associate's degree
Monterey Peninsula College	Nursing	Associate's degree
Ohlone College	Registered Nursing	Associate's degree
Cal State Monterey Bay	Nursing	Bachelor's degree
San Jose State University	Nursing	Bachelor's degree

MANUFACTURING

Manufacturing in Silicon Valley offers many employment opportunities, though the positions tend to require significantly more skill and ability than traditional manufacturing. This section addresses occupations in the manufacturing sector that are not related to Information Communications Technologies (ICT).

Entry-Level Manufacturing Occupations

- Manufacturing Production Technicians
- Computer Control Programmers and Operators
- Machinists
- Assemblers and Fabricators

Intermediate Manufacturing Occupations

- Supervisors of Production and Operating Workers
- Quality Control Analysts
- Quality Control Systems Managers

Entry-Level Manufacturing Occupations

Manufacturing Production Technicians

Set up, test, and adjust manufacturing machinery or equipment, using any combination of electrical, electronic, mechanical, hydraulic, pneumatic, or computer technologies.

$28.45 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Manufacturing Production Technicians

- Ability to analyze technical data, designs, or preliminary specifications
- Prepare technical, managerial, financial, or informational reports
- Read blueprints, diagrams, schematics, specifications, or technical drawings
- Review technical, operating, service, or repair manuals or publications
- Operate precision test equipment
- Test materials to verify safety standards or ensure meeting of specifications
- Ability to recommend solutions to technical problems

Key Credentials & Certifications

- Certified Production Technician, Manufacturing Skill Standards Council (MSSC)

Targeted Recommendations

- Offer training that leads to MSSC CPT certification
- Partner with local businesses for apprenticeship and incumbent worker training

Computer Control Programmers & Operators

Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

$17.78 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Computer Control Programmers & Operators

- Set-up production equipment or machinery
- Inspect work products, materials, or work to verify conformance to quality, specifications, damage, or codes
- Ability to review technical, operating, service, or repair manuals or publications
- Perform varied measurements, including precision measurements
- Read blueprints, diagrams, schematics, specifications, or technical drawings
- Ability to operate metal or plastic fabricating equipment/machinery
- Set-up computer numerical control machines

Key Credentials & Certifications

- CNC Certificate
- CNC Setup Programmer (NIMS)
- Associate Degree

Targeted Recommendations

- Offer training that leads to CNC certification
- Partner with local businesses for apprenticeship and incumbent worker training

Machinists

Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.

$22.77 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Machinists

- Set-up production equipment or machinery
- Ability to review technical, operating, service, or repair manuals or publications
- Inspect work products, materials, or work to verify conformance to quality, specifications, damage, or codes
- Ability to read blueprints, diagrams, schematics, specifications, or technical drawings
- Perform varied measurements, including precision measurements
- Operate metal or plastic fabricating equipment/machinery
- Load/Unload material or work-piece into machinery

Key Credentials & Certifications

- Certified Machinist (NIMS)

Targeted Recommendations

- Offer training that leads to NIMS certification
- Partner with local businesses for apprenticeship and incumbent worker training

Assemblers and Fabricators

Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Includes team leaders who work as part of the team.

$16.76 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Assemblers and Fabricators

- Ability to make independent judgment in assembly procedures
- Ability to monitor the quantity of assembly output
- Assemble gear systems
- Assemble detonation units for construction or extraction work
- Read blueprints, diagrams, schematics, specifications, or technical drawings
- Inspect work products, materials, or work to verify conformance to quality, specifications, damage, or codes
- Read work order, instructions, formulas, or processing charts

Key Credentials & Certifications

- See listing of third party certifications at: http://www.nationalboard.org/SiteDocuments/NB18/PDFs/NB18pdfs/LISTING%20OF%20ASSEMBLER%20AND%20MANUFACTURER%20CERTIFICATIONS.pdf

Targeted Recommendations

- Partner with local businesses for apprenticeship and incumbent worker training

Regional Training Providers for Entry-Level Manufacturing Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
San Jose City College	Machine Tool Technology/Machinist	Award of at least 1 but less than 2 academic years, Award of less than 1 academic year
De Anza College	Machine Tool Technology/Machinist	Associate's degree, Award of less than 1 academic year

Intermediate Manufacturing Occupations

Supervisors of Production & Operating Workers

Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.

$30.60 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Supervisors of Production & Operating Workers

- Inspect work products, materials, or work to verify conformance to quality, specifications, damage, or codes
- Perform safety inspections
- Ability to read work order, instructions, formulas, or processing charts
- Read blueprints, diagrams, schematics, specifications, or technical drawings
- Monitor production machinery/equipment operation to detect problems
- Set-up production equipment or machinery
- Measure products or materials

Key Credentials & Certifications

- ISO
- SME

Targeted Recommendations

- Offer preparatory courses for SME and ISO
- Partner with local employers for incumbent worker training
- Provide management and career skill training

Quality Control Analysts

Conduct tests to determine quality of raw materials, bulk intermediate and finished products. Quality Control Analysts may conduct stability sample tests.

$25.30 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Quality Control Analysts

- Analyze chemical, experimental, test, or analysis data or findings
- Use scientific research methodology and procedures
- Collect scientific or technical data
- Ability to communicate technical or scientific information
- Maintain records, reports, files, listings, or logs
- Compile numerical or statistical data
- Prepare technical, managerial, financial, or informational reports

Key Credentials & Certifications

- ASQ
- ISO

Targeted Recommendations

- Offer preparatory courses for ASQ and ISO
- Partner with local employers for incumbent worker training
- Provide QA/QC courses for dislocated entry-level manufacturers

Quality Control Systems Managers

Plan, direct, or coordinate quality assurance programs. Formulate quality control policies and control quality of laboratory and production efforts.

$54.91 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Quality Control Systems Managers

- Ability to develop operational budgets
- Negotiate business, sales, rental, or lease contracts
- Develop policies, protocols, procedures, methods, or standards
- Implement company or staff policies
- Assign work to staff or employees
- Conduct staff meetings
- Exchange ideas and information with others

Key Credentials & Certifications

- ASQ
- ISO

Targeted Recommendations

- Offer preparatory courses for ASQ and ISO
- Partner with local employers for incumbent worker training
- Provide QA/QC courses for dislocated entry-level manufacturers

Regional Training Providers for Intermediate Manufacturing Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
Skyline College	Logistics, Materials, and Supply Chain Management	Award of less than 1 academic year
University of Phoenix-Bay Area Campus	Operations Management and Supervision	Bachelor's degree
San Jose State University	Industrial Engineering	Master's degree, Bachelor's degree
San Jose State University	Logistics, Materials, and Supply Chain Management	Master's degree
Santa Clara University	Engineering/Industrial Management	Master's degree
Stanford University	Engineering/Industrial Management	Doctorate degree, Master's degree, Bachelor's degree
Stanford University	Industrial Engineering	Doctorate degree, Post-masters certificate, Master's degree, Bachelor's degree

BUILDING DESIGN AND ENERGY EFFICIENCY

Building Design and Energy Efficiency Occupations offer many opportunities in the greater San Jose region. As the economy continues to emerge from recession, this hard hit cluster is demonstrating significant growth and the jobs requirements illustrate more advanced technical skills.

Entry-Level Building Design and Energy Efficiency Occupations

- Construction Laborers
- Weatherization Installers and Technicians
- Helpers--Electricians

Intermediate Building Design and Energy Efficiency Occupations

- Commercial and Industrial Designers
- Interior Designers
- Construction Managers
- First-line Supervisors of Building Trades (Carpenter, Electrician, Plumber, etc.)

Entry-Level Building Design and Engineering Occupations

Construction Laborers

Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers.

$19.48 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Construction Laborers

- Use measuring devices to determine dimensions or characteristics
- Evaluate construction quality
- Ability to understand construction specifications
- Perform safety inspections
- Fabricate manufactured products by hand
- Build structures in construction, repair, or manufacturing setting
- Repair structures in construction, repair, or manufacturing setting

Key Credentials & Certifications

- None

Targeted Recommendations

- Offer introductory building industry courses
- Partner with local employers to develop internships and externships
- Develop pathway programs for special populations such as formerly incarcerated

Weatherization Installers & Technicians

Perform a variety of activities to weatherize homes and make them more energy efficient. Duties include repairing windows, insulating ducts, and performing heating, ventilating, and air-conditioning (HVAC) work. May perform energy audits and advise clients on energy conservation measures.

$18.73 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Weatherization Installers & Technicians[12]

- Understand construction specifications
- Ability to read blueprints, diagrams, schematics, specifications, or technical drawings
- Use measuring devices to determine dimensions or characteristics
- Verify levelness or verticality, using level or plumb bob
- Position machines, equipment, or structures
- Ability to read work order, instructions, formulas, or processing charts
- Mark lay out for construction projects

Key Credentials & Certifications

- BPI Energy Auditor
- BPI Retrofit Installer

Targeted Recommendations

- Focus on BPI certifications as the emerging standard in the industry

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[12] Detailed Work Activities (DWAs) are not compiled for SOC 47-4099.03 Weatherization Installers and Technicians, therefore they were sourced from SOC 47-2061 Construction Laborers

Helpers - Electricians

Help electricians by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment.

$14.78 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Helpers – Electricians

- Use measuring devices to determine dimensions or characteristics
- Clean equipment or machinery for optimum performance
- Ability to fabricate manufactured products by hand
- Assist mechanic, extractive, or construction trades craft worker
- Weld metal using acetylene welding/cutting torch or oxy/fuel gas welding equipment
- Bend tubing or conduit to fit work area
- Set-up specialized rigging

Key Credentials & Certifications

- None

Targeted Recommendations

- Provide entry-level, electrician pre-apprenticeship training
- Offer entrepreneurship and business modules

Intermediate Building Design and Engineering Occupations

Commercial and Industrial Designers

Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.

$29.94 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Interior Designers

- Design interior space to meet customer specifications
- Use creativity in art, graphic, or design work
- Create art from ideas
- Exchange ideas and information with others
- Ability to provide constructive feedback
- Identify color or balance
- Draw subject or item sketches

Key Credentials & Certifications

- Associate Degree
- Bachelor Degree

Targeted Recommendations

- Partner with local employers for incumbent worker training
- Develop flexible pathways that lead to college attainment

Interior Designers

Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design.

$22.85   **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Interior Designers

- Design interior space to meet customer specifications
- Use creativity in art, graphic, or design work
- Ability to create art from ideas
- Exchange ideas and information with others
- Ability to provide constructive feedback
- Collaborate with other performers, directors, and or designers
- Identify color or balance

Key Credentials & Certifications

- Associate Degree
- Bachelor Degree

Targeted Recommendations

- Partner with local employers for incumbent worker training
- Develop flexible pathways that lead to college attainment

Construction Managers

Plan, direct, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. Includes managers in specialized construction fields, such as carpentry or plumbing.

$36.70 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of Construction Managers

- Ability to develop operational budgets
- Negotiate business, sales, rental, or lease contracts
- Develop safety procedures and regulations
- Direct civil engineering projects
- Direct construction of mine shafts or tunnels
- Ability to plan construction of structures or facilities
- Manage behavior, decorum, and situations in classrooms, groups, or meetings

Key Credentials & Certifications

- Construction Management Certificate (CMAA)
- Associate Degree
- Bachelor Degree

Targeted Recommendations

- Provide CMC training and test preparation
- Partner with local employers for incumbent worker training
- Develop flexible pathways that lead to college attainment

First-Line Supervisors of Building Trades

Directly supervise and coordinate activities of construction or extraction workers.

$30.35 **Median hourly earnings** in Silicon Valley in 2012

Top Activities or Skills of First-Line Supervisors of Building Trades

- Use measuring devices to determine dimensions or characteristics
- Perform safety inspections
- Ability to understand construction specifications
- Build structures in construction, repair, or manufacturing setting
- Evaluate construction quality
- Install prefabricated building components
- Verify levelness or verticality, using level or plumb bob

Key Credentials & Certifications

- Construction Management Certificate (CMAA)
- Associate Degree
- Bachelor Degree

Targeted Recommendations

- Provide CMC training and test preparation
- Partner with local employers for incumbent worker training
- Develop flexible pathways that lead to college attainment

Regional Training Providers for Intermediate Building Design and Energy Efficiency Occupations

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
College of San Mateo	Interior Design	Award of less than 1 academic year
College of San Mateo	Building/Home/Construction Inspection/Inspector	Award of less than 1 academic year
Institute for Business and Technology	Electrician	Award of less than 1 academic year
West Valley College	Business/Commerce, General	Award of less than 1 academic year
CET-Gilroy	Building/Property Maintenance	Award of at least 1 but less than 2 academic years
CET-Gilroy	Building Construction Technology	Award of at least 1 but less than 2 academic years
CET-Sobrato	Building Construction Technology	Award of at least 1 but less than 2 academic years
Cañada College	Interior Design	Associate's degree, Award of less than 1 academic year
De Anza College	Energy Management and Systems Technology/Technician	Associate's degree, Award of less than 1 academic year
De Anza College	Business Administration and Management, General	Associate's degree, Award of less than 1 academic year
Gavilan College	Business/Commerce, General	Associate's degree, Award of less than 1 academic year
San Jose City College	Business Administration and Management, General	Associate's degree, Award of less than 1 academic year
West Valley College	Business Administration and Management, General	Associate's degree, Award of less than 1 academic year
San Jose City College	Building Construction Technology	Associate's degree, Award of at least 1 but less than 2 academic years, Award of less than 1 academic year
Cañada College	Business Administration and Management, General	Associate's degree
College of San Mateo	Commercial and Advertising Art	Associate's degree
Evergreen Valley College	Business Administration and Management, General	Associate's degree
Foothill College	Business Administration and Management, General	Associate's degree
Foothill College	Electrician	Associate's degree
Gavilan College	Business Administration and Management, General	Associate's degree

Regional Training Providers for Intermediate Building Design and Energy Efficiency Occupations (cont.)

Training Provider/ Institution	Name of Program(s)	Type of Program(s)
Heald College-San Jose	Construction Management	Associate's degree
Mission College	Business/Commerce, General	Associate's degree
San Jose City College	Business/Commerce, General	Associate's degree
Skyline College	Business Administration and Management, General	Associate's degree
West Valley College	Interior Design	Award of at least 2 but less than 4 academic years, Associate's degree
The National Hispanic University	Business Administration and Management, General	Bachelor's degree, Associate's degree
Menlo College	Business Administration and Management, General	Bachelor's degree
San Jose State University	Interior Design	Bachelor's degree
San Jose State University	Industrial and Product Design	Bachelor's degree
The Art Institute of California - Sunnyvale	Interior Design	Bachelor's degree
University of Phoenix-Bay Area Campus	Operations Management and Supervision	Bachelor's degree
San Jose State University	Business Administration and Management, General	Master's degree, Bachelor's degree
University of Phoenix-Bay Area Campus	Business Administration and Management, General	Master's degree, Bachelor's degree
International Technological University	Business Administration and Management, General	Master's degree
Notre Dame de Namur University	Business Administration and Management, General	Master's degree
Santa Clara University	Business Administration and Management, General	Master's degree
Stanford University	Industrial and Product Design	Master's degree
Stanford University	Business Administration and Management, General	Doctorate degree, Master's degree