** Cardiovascular Technologists and Technicians**

**Labor Market Information Report**

**City College of San Francisco**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

March 2019

# Recommendation

Based on all available data, there appears to be an undersupply of Cardiovascular Technologists and Technicianscompared to the demand for this occupation in the Bay region. There is a projected annual gap of about 61 students in the Bay region. Because CCSF is the only community college in the region issuing awards on this TOP code, the gap analysis for the Mid-Peninsula Sub-Region is not relevant. CCSF’s program supply is the only supply in the region.

This report also provides student outcomes data on employment and earnings for programs on TOP 1213.00 - Cardiovascular Technician in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at City College of San Francisco (CCSF) and in the region.

# Introduction

This report profiles Cardiovascular Technologists and Techniciansin the 12 county Bay region and in the Mid-Peninsula sub-region for the review and modification of an existing program at City College of San Francisco.

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| --- |
| * **Cardiovascular Technologists and Technicians (SOC 29-2031):** Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary functions, lung capacity, and similar tests. Includes vascular technologists.
 |
| Entry-Level Educational Requirement: Associate's degree |
| Training Requirement: None |
| Percentage of Community College Award Holders or Some Postsecondary Coursework: 60% |

# Occupational Demand

**Table 1. Employment Outlook for Cardiovascular Technologists and Technicians in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Cardiovascular Technologists and Technicians | 1,035 | 1,099 | 65  | 6% | 340 | 68 | $18.39  | $33.82  |

*Source: EMSI 2019.1*

**Bay Region** includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 2. Employment Outlook for Cardiovascular Technologists and Technicians in Mid-Peninsula Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation  | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Cardiovascular Technologists and Technicians | 227 | 250 | 22  | 10% | 82 | 16 | $22.00  | $51.08  |

*Source: EMSI 2019.1*

**Mid-Peninsula Sub-Region** includes San Francisco and San Mateo Counties

### Job Postings in Bay Region and Mid-Peninsula Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (March 2018 - Feb 2019)**

| Occupation | Bay Region | Mid-Peninsula |
| --- | --- | --- |
|  Cardiovascular Technologists and Technicians | 963 | 288 |

*Source: Burning Glass*

**Table 4. Top Job Titles for Cardiovascular Technologists and Technicians for latest 12 months (March 2018 - Feb 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | Mid-Peninsula | Common Title | Bay | Mid-Peninsula |
| EKG Technician | 83 | 31 | Radiology Technician | 13 | 6 |
| Catheterization Laboratory Technician | 79 | 18 | Cardiovascular Technician | 12 | 1 |
| Laboratory Technologist | 59 | 18 | Perfusionist | 12 | 0 |
| Behavior Technician | 57 | 12 | Cardiovascular Specialist | 11 | 2 |
| Echo Technician | 29 | 11 | Cardiac Specialist | 10 | 9 |
| Monitor Technician | 29 | 6 | Pcu/Imc/Stepdown | 10 | 0 |
| Behavior Technician, Behavior | 22 | 12 | Cardiovascular Technologist | 9 | 1 |
| Cardiovascular Interventional Technologist | 18 | 5 | Echocardiographer | 9 | 1 |
| Sonographer | 17 | 3 | Monitor | 9 | 2 |
| Cardiac Monitor Technician | 16 | 10 | CT Technologist | 8 | 2 |
| Cardiac Technician | 16 | 7 | Cvor Cst/St, Cardiovascular | 8 | 4 |
| Cath Laboratory | 16 | 5 | Travel Echo Technician | 8 | 4 |
| Event Technician | 14 | 12 | Vascular Technologist | 8 | 0 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Cardiovascular Technologists and Technicians in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2017) | Jobs in Industry (2022) | % Change (2017-22) | % in Industry (2017) |
| General Medical and Surgical Hospitals (622110) | 567 | 567 |  (1%) | 54.4% |
| Hospitals (Local Government) (903622) | 168 | 171 | 11% | 16.4% |
| Offices of Physicians (except Mental Health Specialists) (621111) | 94 | 94 | 1% | 9.0% |
| HMO Medical Centers (621491) | 58 | 58 | 26% | 5.6% |
| Medical Laboratories (621511) | 30 | 31 | 33% | 2.9% |
| Hospitals (State Government) (902622) | 30 | 29 | 27% | 2.8% |

*Source: EMSI 2019.1*

**Table 6. Top Employers Posting Jobs for Cardiovascular Technologists and Technicians in Bay Region and Mid-Peninsula Sub-Region (March 2018 - Feb 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Mid-Peninsula |
| Kaiser Permanente | 33 | Santa Cruz City Schools | 9 | Ican B Applied Behavior Analysis | 12 |
| Sutter Health | 21 | Biotelemetry | 8 | Biotelemetry | 8 |
| Hospital Corporation of America | 19 | Dignity Health | 8 | Seton Medical Center | 8 |
| Santa Rosa City Schools | 19 | El Camino Hospital | 8 | Dignity Health | 7 |
| Ican B Applied Behavior Analysis | 16 | Seton Medical Center | 8 | Sutter Health | 7 |
| Sutter Medical Center | 16 | Ste Consultants, Llc | 8 | Healthcare Employment Network | 6 |
| Emergingmilestones Inc | 15 | Talemed Incorporated | 7 | Kpg Healthcare | 6 |
| Healthcare Employment Network | 15 | Berkeley Unified School District | 6 | Sutter Medical Center | 6 |
| Aya Healthcare | 14 | Emerging Milestones | 6 | UC San Francisco Medical Center | 6 |
| All Better Together | 13 | Jackson Physician Search | 6 | Aya Healthcare | 5 |
| Regional Medical Center San Jose | 13 | UC San Francisco Medical Center | 6 | Sutter Health Sacramento Sierra Region | 5 |
| Stanford Health Care | 12 | University California | 6 | Biotelemetry, Inc | 4 |
| Atlas Med | 10 | Biotelemetry, Inc | 5 | Lifewatch Services Incorporated | 4 |
| Sutter Health Sacramento Sierra Region | 10 | Brentwood Union School District Northern California | 5 | Springboard Healthcare | 4 |
| Kpg Healthcare | 9 | Cross Country Allied | 5 | UnitedHealth Group | 4 |

*Source: Burning Glass*

# Educational Supply

City College of San Francisco is the only community college in the Bay Region issuing awards on TOP 1213.00 - Cardiovascular Technician, issuing 7 annual awards (3-year average).

**Table 7. Awards on TOP 1213.00 - Cardiovascular Technician in the Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | Headcount | Associates | Certificates | Total |
| San Francisco | Mid-Peninsula | 55 | 1 | 6 | 7 |
| Foothill | Silicon Valley | 137 |  |  |  |
| Ohlone | East Bay | 18 |  |  |  |
| Santa Rosa | North Bay | 220 |  |  |  |
| **Total Bay Region** | **430** | **1** | **6** | **7** |
| **Total Mid-Peninsula Sub-Region** | **55** | **1** | **6** | **7** |

# *Source: IPEDS, Data Mart and Launchboard*

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

# Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 68 annual openings for Cardiovascular Technologists and Techniciansand 7 annual (3-year average) awards for an annual undersupply of 61 students. Because CCSF is the only community college in the region issuing awards on this TOP code, the gap analysis for the Mid-Peninsula Sub-Region is not relevant. CCSF’s program supply is the only supply in the region.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1213.00 - Cardiovascular Technician**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay (All CTE Programs) | City College of San Francisco (All CTE Programs) | State (1213.00) | Bay (1213.00) | Mid-Peninsula (1213.00) | City College of San Francisco (1213.00) |
| % Employed Four Quarters After Exit | 74% | 73% | 70% | 73% | 71% | 70% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $10,170 | $8,399 | $10,242 | $10,032 | $10,111 |
| Median % Change in Earnings | 46% | 50% | 48% | 47% | 47% | 49% |
| % of Students Earning a Living Wage | 63% | 55% | 53% | 59% | 52% | 53% |

*Source: Launchboard Pipeline (version available on 3/26/19)*

# Skills, Certifications and Education

**Table 9. Top Skills for Cardiovascular Technologists and Technicians in Bay Region (March 2018 - Feb 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Cardiopulmonary Resuscitation (CPR) | 310 | Autism Diagnosis / Treatment / Care | 65 | Arrhythmia Diagnosis / Treatment | 39 |
| Catheterization Laboratory (CATH LAB) | 227 | Customer Service | 65 | Data Entry | 38 |
| Electrocardiogram (EKG / ECG) | 199 | Teaching | 64 | Surgery | 38 |
| Cardiology | 155 | Ultrasound | 63 | Electrocardiogram (EKG) Interpretation | 36 |
| Radiology | 133 | Clerical Duties | 51 | Treatment Planning | 36 |
| Advanced Cardiac Life Support (ACLS) | 115 | Quality Assurance and Control | 48 | Acute Care | 34 |
| Life Support | 103 | Holter Monitor | 47 | Calculation | 34 |
| Patient Care | 100 | Special Needs Children | 47 | Medical Terminology | 33 |
| Catheterization | 84 | X-Rays | 47 | Occupational Health and Safety | 33 |
| Psychology | 84 | Stress Testing | 45 | Medical Coding | 32 |
| Scheduling | 83 | Telemetry | 44 | Aseptic Technique | 31 |
| Applied Behavior Analysis | 76 | Anatomy | 43 | Interventional Radiology (IR) | 31 |
| Repair | 76 | Cleaning | 43 | Echocardiography | 30 |
| Child Development | 67 | Behavior Analysis | 40 | Measles Mumps Rubella (MMR) | 29 |
| Record Keeping | 66 | Patient Preparation | 40 | Angiography | 28 |

*Source: Burning Glass*

**Table 10. Certifications for Cardiovascular Technologists and Technicians in the Bay Region (March 2018 - Feb 2019)**

Note: 35% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| Certification | Postings | Certification | Postings |
| Basic Life Saving (BLS) | 151 | Typing Certification | 17 |
| Driver's License | 146 | E.K.G. Certification | 16 |
| First Aid Cpr Aed | 145 | Registered Vascular Technologist | 15 |
| Advanced Cardiac Life Support (ACLS) Certification | 114 | Associate Business Continuity Professional | 11 |
| Basic Cardiac Life Support Certification | 100 | Registered Diagnostic Medical Sonographer | 10 |
| American Registry of Radiologic Technologists (ARRT) Certification | 84 | Registered Radiologic Technologist | 10 |
| Registered Cardiovascular Invasive Specialist | 76 | Respiratory Care Practitioner (RCP) | 10 |
| Registered Behavior Technician | 68 | Certified Clinical Perfusionist | 8 |
| Board Certified Behavior Analyst (BCBA) | 55 | Certified Surgical Technologist | 8 |
| Certified Cardiographic Technician | 47 | Registered Cardiac Sonographer | 8 |
| Registered Diagnostic Cardiac Sonographer | 34 | Board Certified/Board Eligible | 7 |
| American Registry For Diagnostic Medical Sonography (ARDMS) | 31 | Certified Cardiology Technician | 6 |
| American Heart Association Certification | 26 | Certified Compensation Professional (CCP) | 6 |
| Certified Rhythm Analysis Technician | 26 | Certified Radiology Technician | 6 |
| Emergency Medical Technician (EMT) | 22 | Registered Respiratory Therapist | 6 |
| Registered Cardiac Electrophysiology Specialist | 20 | Certified Cardiovascular Technologist | 5 |
| Ca License | 19 | Certified Teacher | 5 |

*Source: Burning Glass*

**Table 11. Education Requirements for Cardiovascular Technologists and Technicians in Bay Region**

Note: 55% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |
| --- | --- |
| Education (minimum advertised) | Latest 12 Mos. Postings |
| High school or vocational training | 282 (65%) |
| Associate Degree | 39 (9%) |
| Bachelor’s Degree or Higher | 115 (26%) |

*Source: Burning Glass*

# Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor’s Office MIS system

# Contacts

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