** Diagnostic Medical Imaging Occupations**

**Labor Market Information Report**

**City College of San Francisco**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

October 2019

# Recommendation

Based on all available data, there appears to be an undersupply of Diagnostic Medical Imaging workers compared to the demand for this cluster of occupations in the Bay region and in the Mid-Peninsula sub-region (San Francisco and San Mateo Counties.) There is a projected annual gap of about 195 students in the Bay region and 45 students in the Mid-Peninsula Sub-Region.

This report also provides student outcomes data on employment and earnings for programs on TOP 1225.00 - Radiologic Technology 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 Diagnostic Medical Imaging Occupations in the 12 county Bay region and in the Mid-Peninsula sub-region for the review of an existing program at City College of San Francisco.

|  |
| --- |
| * **Radiologic Technologists (SOC 29-2034):** Take X rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other scanning modalities. Excludes “Diagnostic Medical Sonographers”(29-2032) and “Magnetic Resonance Imaging Technologists” (29-2035). |
| 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 Diagnostic Medical Imaging Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Radiologic Technologists | 4,151 | 4,666 | 515 | 12% | 1,639 | 328 | $22.73 | $42.79 |

*Source: EMSI 2019.2*

**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 Diagnostic Medical Imaging Occupations in Mid-Peninsula Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2018 Jobs | 2023 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Average Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Radiologic Technologists | 1,006 | 1,174 | 168 | 17% | 446 | 89 | $23.90 | $47.14 |

*Source: EMSI 2019.2*

**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 (October 2018 - September 2019)**

| Occupation | Bay Region | Mid-Peninsula |
| --- | --- | --- |
| Radiologic Technologists | 1,364 | 413 |

*Source: Burning Glass*

**Table 4a. Top Job Titles for Diagnostic Medical Imaging Occupations for latest 12 months (October 2018 - September 2019) Bay Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Bay | Common Title | Bay |
| Radiologic Technologist | 606 | Diagnostic Imaging Technologist | 7 |
| Radiology Technician | 257 | Senior Technologist | 6 |
| Mammography Technologist | 169 | Radiologist | 6 |
| Imaging Specialist | 31 | Senior Technician | 5 |
| Technologist | 24 | Senior Ip Technologist | 4 |
| Mammographer/Technician, Travel | 23 | Radiology Aide | 4 |
| Radiological Technologist | 20 | Radiologic Technician, C++ | 4 |
| Pacs Administrator | 19 | Diagnostic Radiological Technologist | 4 |
| Radiologic Technician | 14 | Assistant Technician | 4 |
| Ultrasound - Imaging | 13 | X - Rays Technician | 3 |
| Imaging Mammographer | 12 | Wastewater Technologist | 3 |
| Mammographer | 11 | Ultrasound Technologist | 3 |
| Radiological Control Technician | 8 | Technical Systems Manager | 3 |
| Diagnostic Radiologic Technologist | 7 | Radiotherapy Technologist | 3 |

**Table 4b. Top Job Titles for Diagnostic Medical Imaging Occupations for latest 12 months (October 2018 - September 2019) Mid-Peninsula Sub-Region**

|  |  |  |  |
| --- | --- | --- | --- |
| Common Title | Mid-Peninsula | Common Title | Mid-Peninsula |
| Radiologic Technologist | 179 | Imaging Mammographer | 3 |
| Radiology Technician | 86 | Senior Principal Technologist, Adult Services | 2 |
| Mammography Technologist | 44 | Innovation Technologist | 2 |
| Radiological Technologist | 18 | Information Technology Administrator | 2 |
| Imaging Specialist | 12 | Imagingtechnologist | 2 |
| Mammographer/Technician, Travel | 8 | Diagnostic Radiological Technologist | 2 |
| Mammographer | 5 | Diagnostic Radiologic Technologist | 2 |
| Ultrasound - Imaging | 4 | Diagnostic Imaging Technologist | 2 |
| Technologist | 4 | Devops With Kubernetes | 2 |
| Senior Ip Technologist | 4 | Accelerator Technologist | 2 |
| Wastewater Technologist | 3 | X - Rays Technician | 1 |
| Radiological Control Technician | 3 | Title Imaging Specialist | 1 |
| Pacs Administrator | 3 | The Cats' Inn 10Th | 1 |
| Junior Radiological Control Technician | 3 | Technician, Mammography | 1 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Diagnostic Medical Imaging Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2018) | Jobs in Industry (2022) | % Change (2018-22) | % in Industry (2018) |
| General Medical and Surgical Hospitals (622110) | 1,414 | 1,411 | -2% | 34% |
| HMO Medical Centers (621491) | 680 | 683 | 27% | 16% |
| Hospitals (Local Government) (903622) | 553 | 556 | 7% | 13% |
| Offices of Physicians (except Mental Health Specialists) (621111) | 496 | 496 | 0% | 12% |
| Medical Laboratories (621511) | 281 | 286 | 27% | 7% |
| Hospitals (State Government) (902622) | 110 | 110 | 29% | 3% |
| Freestanding Ambulatory Surgical and Emergency Centers (621493) | 87 | 87 | 32% | 2% |
| All Other Outpatient Care Centers (621498) | 83 | 85 | 34% | 2% |
| Diagnostic Imaging Centers (621512) | 81 | 82 | 21% | 2% |
| Federal Government, Civilian, Excluding Postal Service (901199) | 60 | 60 | -2% | 1% |
| Kidney Dialysis Centers (621492) | 55 | 54 | 16% | 1% |

*Source: EMSI 2019.2*

**Table 6. Top Employers Posting Diagnostic Medical Imaging Occupations in Bay Region and Mid-Peninsula Sub-Region (October 2018 - September 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | Mid-Peninsula |
| Kaiser Permanente | 118 | Gohealth Urgent Care | 13 | Sutter Health | 40 |
| Sutter Health | 113 | Regional Medical Center San Jose | 11 | Sutter Health Sacramento Sierra Region | 28 |
| Sutter Health Sacramento Sierra Region | 66 | Medely | 11 | Kaiser Permanente | 22 |
| Sutter Medical Center | 56 | John Muir Mt Diablo Health | 11 | UC San Francisco Medical Center | 18 |
| Hospital Corporation of America | 30 | Cross Country Allied | 11 | Sutter Medical Center | 18 |
| Uc San Diego | 28 | Covenant Health | 11 | St Mary Medical Center | 14 |
| Lucile Packard Childrens Hospital | 28 | University California | 9 | Dignity Health | 12 |
| Dignity Health | 22 | Northbay Healthcare Group | 9 | Gohealth Urgent Care | 11 |
| Department of Veterans Affairs | 20 | Kpg Healthcare | 9 | Nursefly Travel Nursing | 7 |
| Stanford Health Care | 19 | Ansible Government Solutions | 7 | Department of Veterans Affairs | 6 |
| Nursefly Travel Nursing | 19 | Vibra Healthcare | 6 | Aptim | 6 |
| UC San Francisco Medical Center | 18 | St Joseph Health | 6 | Vibra Healthcare | 5 |
| Healthcare Employment Network | 18 | Marin General Hospital | 6 | St Mary Health Care | 5 |
| Humana | 16 | Linxx Global Solutions | 6 | University Healthcare Alliance | 4 |
| St Mary Medical Center | 14 | Bakersfield Memorial Hospital | 6 | Healthcare Employment Network | 4 |
| Alta Bates Summit | 14 | Aptim | 6 | Onekreate | 3 |
| University Healthcare Alliance | 13 | Allied | 6 | North East Medical Services | 3 |

*Source: Burning Glass*

# Educational Supply

There are six (6) community colleges in the Bay Region issuing 133 awards on average annually (last 3 years) on TOP 1225.00 - Radiologic Technology. There are two colleges in the Mid-Peninsula Sub-Region issuing 44 awards on average annually (last 3 years) on this TOP code.

**Table 7. Awards on TOP 1225.00 - Radiologic Technology in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| College | Sub-Region | Associates | Certificate 18+ units | Total |
| Cabrillo College | Santa Cruz - Monterey | 18 |  | 18 |
| Cañada College | Mid-Peninsula | 18 |  | 18 |
| City College of San Francisco | Mid-Peninsula | 26 |  | 26 |
| Foothill College | Silicon Valley | 19 |  | 19 |
| Merritt College | East Bay | 15 | 14 | 29 |
| Santa Rosa Junior College | North Bay | 17 | 6 | 23 |
| **Total Bay Region** | | **113** | **20** | **133** |
| **Total Mid-Peninsula Sub-Region** | | **44** | **0** | **44** |

# *Source: Data Mart*

Note: The annual average for awards is 2015-16 to 2017-18.

# Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 328 annual openings for the Diagnostic Medical Imaging occupational cluster and 133 annual (3-year average) awards for an annual undersupply of 195 students. In the Mid-Peninsula Sub-Region, there is also a gap with 89 annual openings and 44 annual (3-year average) awards for an annual undersupply of 45 students.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1225.00 - Radiologic Technology**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | City College of San Francisco (All CTE Programs) | State (1225.00) | Bay (1225.00) | Mid-Peninsula (1225.00) | City College of San Francisco (1225.00) |
| % Employed Four Quarters After Exit | 74% | 73% | 82% | 81% | 81% | 85% |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $10,170 | $14,704 | $18,404 | $22,103 | $24,786 |
| Median % Change in Earnings | 46% | 50% | 150% | 145% | 570% | 423% |
| % of Students Earning a Living Wage | 63% | 55% | 76% | 81% | 78% | 77% |

*Source: Launchboard Pipeline (version available on 10/15/19)*

# Skills, Certifications and Education

**Table 9. Top Skills for Diagnostic Medical Imaging Occupations in Bay Region (October 2018 - September 2019)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Radiology | 970 | Image Processing | 162 | Data Entry | 66 |
| Radiologic Technology | 744 | Radiation Protection | 154 | Educational Programs | 61 |
| X-Rays | 593 | Acute Care | 137 | Customer Service | 60 |
| Mammography | 340 | Scheduling | 134 | Catheterization | 59 |
| Patient Care | 335 | Venipuncture | 113 | Computed Tomography (CT) | 56 |
| Quality Assurance and Control | 286 | Disease Diagnosis | 110 | Patient Transportation and Transfer | 52 |
| Cardiopulmonary Resuscitation (CPR) | 246 | Anatomy | 104 | Catheterization Laboratory (CATH LAB) | 51 |
| Diagnostic Imaging | 225 | Advanced Cardiac Life Support (ACLS) | 92 | Quality Management | 51 |
| Life Support | 217 | Ionizing Radiation | 91 | Radiographic Equipment Operation | 47 |
| Diagnostic Radiology | 215 | Interventional Radiology (IR) | 87 | Lifting Ability | 45 |
| Ultrasound | 201 | Patient Safety | 81 | Fluoroscope (C-ARM) | 44 |
| X-Ray (Radiography) Equipment | 185 | Patient Preparation | 77 | Sterile Procedures / Techniques | 43 |
| Repair | 180 | Radiology Equipment | 77 | Patient/Family Education and Instruction | 41 |
| Patient Positioning | 176 | Physiology | 73 | In-Service Meetings | 40 |
| Radiography | 175 | Magnetic Resonance Imaging (MRI) | 68 | Angiography | 39 |

*Source: Burning Glass*

**Table 10. Certifications for Diagnostic Medical Imaging Occupations in Bay Region (October 2018 - September 2019)**

Note: 30% 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 |
| American Registry of Radiologic Technologists (ARRT) Certification | 697 | Ceu's Certificate | 27 |
| Basic Life Saving (BLS) | 387 | Security Clearance | 12 |
| Basic Cardiac Life Support Certification | 282 | Nurse Practitioner | 12 |
| Registered Radiologic Technologist | 261 | Certified Nuclear Medicine Technologist | 10 |
| Certified Radiology Technician | 232 | Registered Diagnostic Medical Sonographer | 8 |
| First Aid Cpr Aed | 119 | Radiologic Technician | 7 |
| Advanced Cardiac Life Support (ACLS) Certification | 91 | Registered Cardiovascular Invasive Specialist | 5 |
| Driver's License | 51 | Radiography Certification | 5 |
| American Heart Association Certification | 45 | Quality Improvement | 5 |
| American Registry For Diagnostic Medical Sonography (ARDMS) | 40 | Licensed Vocational Nurse (LVN) | 5 |
| Diagnostic Radiologic Technologists | 37 | Clinical Laboratory Scientist (ClS) | 4 |
| Ca License | 31 | Licensed Professional Engineer | 3 |

*Source: Burning Glass*

**Table 11. Education Requirements for Diagnostic Medical Imaging Occupations in Bay Region**

Note: 50% 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 | Percent 12 Mos. Postings |
| High school or vocational training | 589 | 87% |
| Associate Degree | 56 | 8% |
| Bachelor’s Degree or Higher | 26 | 5% |

*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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