

# Education Technology Occupations

# Labor Market Information Report

# Foothill College

## Prepared by the San Francisco Bay Center of Excellence for Labor Market Research

**February 2021**

## Recommendation

Based on all available data, there appears to be an “undersupply” of Education Technology workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara county). There is a projected annual gap of about 9,648 students in the Bay region and 2,841 students in the Silicon Valley Sub-Region. In addition, because Foothill College’s intent with the three proposed new certificates is to train incumbent teachers in educational technology with varying specialties, the gap analysis that is normally done between supply and demand is not as relevant in this report.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 0860.00 - Educational Technology programs 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 Foothill College and in the region.

This report profiles Education Technology Occupations in the 12 county Bay region and in the Silicon Valley sub-region for three separate proposed new Certificates of Achievement in 1) Steam Instructional Leadership 2) Emerging Technology Leadership and 3) Education Technology Specialist at Foothill College. Foothill College indicates: “the three mentioned certificates are to train teachers in educational technology with varying specialties.”

* **Computer Occupations, All Other (15-1299):** All computer occupations not listed separately. Excludes “Computer and Information Systems Managers” (11-3021), “Computer Hardware Engineers” (17-2061), “Electrical and Electronics Engineers” (17-2070), “Computer Science Teachers, Postsecondary” (25-1021), “Multimedia Artists and Animators” (27-1014), “Graphic Designers” (27-1024), “Computer Operators” (43-9011), and “Computer, Automated Teller, and Office Machine Repairs” (49-2011).
  Entry-Level Educational Requirement: Bachelor’s degree
  Training Requirement: Moderate-term on-the-job training
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 26%
* **Elementary School Teachers, Except Special Education (25-2021):** Teach students basic academic, social, and other formative skills in public or private schools at the elementary level. Substitute teachers are included in “Teachers and Instructors, All Other” (25-3099). Excludes “Special Education Teachers” (25-2050).
  Entry-Level Educational Requirement: Bachelor’s degree
  Training Requirement: None
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 5%
* **Middle School Teachers, Except Special and Career/Technical Education (25-2022):** Teach students in one or more subjects in public or private schools at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable laws and regulations. Substitute teachers are included in “Teachers and Instructors, All Other” (25-3099). Excludes “Career/Technical Education Teachers, Middle School” (25-2023) and “Special Education Teachers” (25-2050).
  Entry-Level Educational Requirement: Bachelor’s degree
  Training Requirement: None
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 5%
* **Secondary School Teachers, Except Special and Career/Technical Education (25-2031):** Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools. May be designated according to subject matter specialty. Substitute teachers are included in “Teachers and Instructors, All Other” (25-3099). Excludes “Career/Technical Education Teachers, Secondary School” (25-2032) and “Special Education Teachers” (25-2050).
  Entry-Level Educational Requirement: Bachelor’s degree
  Training Requirement: None
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 4%
* **Instructional Coordinators (25-9031):** Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.
  Entry-Level Educational Requirement: Master’s degree
  Training Requirement: None
  Percentage of Community College Award Holders or Some Postsecondary Coursework: 13%

## Occupational Demand

**Table 1. Employment Outlook for Education Technology Occupations in Bay Region**

| **Occupation** | **2019 Jobs** | **2024 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Computer Occupations, All Other | 38,984 | 41,907 | 2,923 | 7% | 18,757 | 3,751 | $ 41.02 | $ 56.52 |
| Elementary School Teachers, Except Special Education | 37,582 | 38,291 | 709 | 2% | 14,960 | 2,992 | $ 29.42 | $ 38.09 |
| Middle School Teachers, Except Special and Career/Technical Education | 9,109 | 9,398 | 289 | 3% | 3,739 | 748 | $ 28.28 | $ 35.56 |
| Secondary School Teachers, Except Special and Career/Technical Education | 21,926 | 22,466 | 540 | 2% | 8,386 | 1,677 | $ 34.67 | $ 42.92 |
| Instructional Coordinators | 4,289 | 4,643 | 354 | 8% | 2,416 | 483 | $ 26.45 | $ 34.30 |
| **Total** | **111,890** | **116,705** | **4,815** | **4%** | **48,258** | **9,651** | **$34.28** | **$45.11** |
| Source: EMSI 2020.4 |

**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 Education Technology Occupations in Silicon Valley Sub-region**

| **Occupation** | **2019 Jobs** | **2024 Jobs** | **5-yr Change** | **5-yr % Change** | **5-yr Total Openings** | **Annual Openings** | **25% Hourly Earning** | **Median Hourly Wage** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Computer Occupations, All Other | 14,091 | 15,207 | 1,116 | 8% | 6,826 | 1,365 | $ 47.30 | $ 64.70 |
| Elementary School Teachers, Except Special Education | 8,927 | 9,040 |  113 | 1% | 3,457 | 691 | $ 32.93 | $ 42.33 |
| Middle School Teachers, Except Special and Career/Technical Education | 1,857 | 1,899 | 42 | 2% | 737 | 147 | $ 31.52 | $ 36.81 |
| Secondary School Teachers, Except Special and Career/Technical Education | 7,183 | 7,264 | 81 | 1% | 2,629 | 526 | $ 34.83 | $ 43.59 |
| Instructional Coordinators | 940 | 1,043 | 103 | 11% | 558 | 112 | $ 28.42 | $ 36.63 |
| **Total** | **32,998** | **34,453** | **1,455** | **4%** | **14,207** | **2,841** | **$39.27** | **$51.68** |
| Source: EMSI 2020.4 |

**Silicon Valley Sub-Region includes:** Santa Clara County

### Job Postings in Bay Region and Silicon Valley Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Feb 2020 - Jan 2021)**

| **Occupation** | **Bay Region** | **Silicon Valley** |
| --- | --- | --- |
| Middle School Teachers, Except Special and Career/Technical Education | 5,202 | 1,223 |
| Elementary School Teachers, Except Special Education | 3,632 | 707 |
| Secondary School Teachers, Except Special and Career/Technical Education | 2,453 | 444 |
| Instructional Coordinators | 501 | 122 |
| Source: Burning Glass |

**Table 4a. Top Job Titles for Education Technology Occupations for latest 12 months (Feb 2020 - Jan 2021) Bay Region**

| **Title** | **Bay** | **Title** | **Bay** |
| --- | --- | --- | --- |
| Nanny  | 201 | Middle School Science Teacher | 60 |
| Teacher | 191 | High School Math Teacher | 54 |
| English Teacher | 148 | Middle School Teacher | 52 |
| Elementary Teacher | 128 | Physical Education Teacher | 51 |
| Spanish Teacher | 120 | Regular Babysitter For 3 Children | 50 |
| Science Teacher | 95 | History Teacher | 45 |
| Elementary School Teacher | 72 | High School English Teacher | 40 |
| Math Teacher | 71 | Occasional Babysitter For 3 Children | 37 |
| Middle School Math Teacher | 65 | English Language Arts Teacher | 37 |
| Source: Burning Glass |

**Table 4b. Top Job Titles for Education Technology Occupations for latest 12 months (Feb 2020 - Jan 2021) Silicon Valley Sub-Region**

| **Title** | **Silicon Valley** | **Title** | **Silicon Valley** |
| --- | --- | --- | --- |
| Nanny | 50 | Elementary Teacher In Training | 18 |
| Teacher | 46 | Social Studies Teacher | 15 |
| English Teacher | 43 | Physical Education Teacher | 15 |
| Elementary Teacher | 42 | Middle School Science Teacher | 15 |
| Elementary School Teacher | 26 | Middle School Teacher | 13 |
| Science Teacher | 23 | Middle School Math Teacher | 13 |
| Spanish Teacher | 19 | Lunch And Extended Teacher | 13 |
| Math Teacher | 19 | Education Coordinator | 12 |
| Elementary Floater Teacher | 19 | Regular Babysitter For 3 Children | 11 |
| Source: Burning Glass |

## Industry Concentration

**Table 5. Industries hiring Education Technology Workers in Bay Region**

| **Industry – 6 Digit NAICS (No. American** **Industry Classification) Codes** | **Jobs in Industry (2019)** | **Jobs in Industry (2024)** | **% Change (2019-24)** | **% Occupation Group in Industry (2019)** |
| --- | --- | --- | --- | --- |
| Elementary and Secondary Schools (Local Government) | 53,676 | 52,199 | -3% | 47% |
| Elementary and Secondary Schools | 14,993 | 15,484 | 3% | 13% |
| Custom Computer Programming Services | 8,136 | 9,190 | 13% | 7% |
| Computer Systems Design Services | 4,654 | 4,975 | 7% | 4% |
| Software Publishers | 2,695 | 3,260 | 21% | 3% |
| Internet Publishing and Broadcasting and Web Search Portals | 2,481 | 2,920 | 18% | 2% |
| Federal Government, Civilian, Excluding Postal Service | 2,484 | 2,449 | -1% | 2% |
| Data Processing, Hosting, and Related Services | 1,869 | 2,237 | 20% | 2% |
| Corporate, Subsidiary, and Regional Managing Offices | 1,425 | 1,304 | -8% | 1% |
| Other Computer Related Services | 1,170 | 1,418 | 21% | 1% |
| Source: EMSI 2020.4 |

**Table 6. Top Employers Posting Education Technology Occupations in Bay Region and Silicon Valley Sub-Region (Feb 2020 - Jan 2021)**

| **Employer** | **Bay** | **Employer** | **Silicon Valley** |
| --- | --- | --- | --- |
| Oakland Unified School District | 784 | San Jose Unified School District | 100 |
| San Ramon Valley Unified School District | 278 | Stratford School | 74 |
| Pajaro Valley Unified School District | 118 | Alpha Public Schools | 61 |
| Envision | 118 | Nobel Learning Communities | 46 |
| Stratford School | 107 | Milpitas Unified | 43 |
| Pleasanton Unified School District | 103 | Santa Clara Unified School District | 42 |
| San Jose Unified School District | 100 | Ace Charter Schools | 35 |
| National Alliance For Public Charter Schools | 95 | Palo Alto Unified School District | 32 |
| Vacaville Unified School District | 92 | Summit Public Schools | 31 |
| Aspire Public Schools | 92 | Union Elementary School | 30 |
| Summit Public Schools | 90 | Campbell Union School District | 29 |
| Kipp Bay Area Schools | 83 | Foothill De Community College District | 27 |
| Dublin Unified School District | 81 | Diocese Of San Jose Dsj | 27 |
| Swing Education | 70 | Challenger School | 26 |
| Source: Burning Glass |

## Educational Supply

There is a one (1) community college in the Bay Region issuing 3 awards on average annually (last 3 years ending 2018-19) on TOP 0860.00 - Educational Technology. In the Silicon Valley Sub-Region, there are no community colleges issuing awards on average annually (last 3 years) on this TOP code. There are no other CTE educational institutions in the Bay Region issuing awards on average annually (last 3 years ending 2016-17) on TOP 0860.00 - Educational Technology.

**Table 7. Community College Awards on TOP 0860.00 - Educational Technology in Bay Region**

| **College** | **Subregion** | **Certificate Low** | **Total** |
| --- | --- | --- | --- |
| Merritt | East Bay | 3 | 3 |
| **Total** |  | **3** | **3** |
| Source: Data Mart |

*Note: The annual average for awards is 2016-17 to 2018-19.*

## Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 9,651 annual openings for the Education Technology occupational cluster and 3 annual (3-year average) awards for an annual undersupply of 9,648 students. In the Silicon Valley Sub-Region, there is also a gap with 2,841 annual openings and no annual (3-year average) awards for an annual undersupply of 2,841 students. In addition, because Foothill College’s intent with the three proposed new certificates is to train incumbent teachers in educational technology with varying specialties, the gap analysis that is normally done between supply and demand is not as relevant in this report.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0860.00 - Educational Technology**

| **2018-19** | **Bay****All CTE Program** | **Foothill****All CTE Program** | **State****0860.00** | **Bay 0860.00** | **Silicon Valley 0860.00** | **Foothill College 0860.00** |
| --- | --- | --- | --- | --- | --- | --- |
| Students with a Job Closely Related to Their Field of Study \* | 75% | 88% | 74% | 82% | 71% | 71% |
| Median Annual Earnings for SWP Exiting Students | $45,864 | $67,768 | $85,052 | $87,140 | $91,848 | $91,792 |
| Median Change in Earnings for SWP Exiting Students | 31% | 46% | 10% | 10% | 12% | 11% |
| Exiting Students Who Attained the Living Wage | 53% | 72% | 80% | 84% | 87% | 90% |
| Source: Launchboard Strong Workforce Program (Version 2018-19). \*Asterisk shows(Version 2017-18) |

## Skills, Certifications and Education

**Table 9. Top Skills for Education Technology Occupations in Bay Region (Feb 2020 - Jan 2021)**

| **Skill** | **Posting** | **Skill** | **Posting** |
| --- | --- | --- | --- |
| Teaching | 10,601 | Learning Styles | 304 |
| Lesson Planning | 1,215 | Cardiopulmonary Resuscitation (CPR) | 298 |
| Special Education | 688 | Assessment Data | 275 |
| Tutoring | 549 | Child Development | 259 |
| Social Studies | 446 | Physics | 259 |
| Scheduling | 442 | Managing Student Data | 238 |
| Music | 382 | Group Instruction | 235 |
| Child Care | 375 | Customer Service | 208 |
| Progress Reports | 375 | Faculty Training | 201 |
| Educational Programs | 355 | Staff Development | 199 |
| Biology | 353 | Empower | 190 |
| Curriculum Development | 352 | Data Analysis | 186 |
| Chemistry | 318 | Working with Under-served Students | 184 |
| History | 315 | Early Childhood Education | 180 |
| Source: Burning Glass |

**Table 10. Certifications for Education Technology Occupations in Bay Region (Feb 2020 - Jan 2021)**

| **Certification** | **Posting** | **Certification** | **Posting** |
| --- | --- | --- | --- |
| Certified Teacher | 1,071 | Project Management Certification | 27 |
| Driver's License | 280 | Special Education Certification | 22 |
| Cross-Cultural Language and Academic Development | 230 | Food Handler Certification | 13 |
| First Aid Cpr Aed | 227 | Ca License | 9 |
| Certified Outpatient Coding (COC) | 152 | Board Certified/Board Eligible | 9 |
| Teaching English As A Foreign Language (TEFL) | 44 | Cdl Class C | 6 |
| Teachers of English To Speakers of Other Languages (TESOL) | 44 | Spanish Certification | 5 |
| Child Development Associate (CDA) | 40 | Security Clearance | 5 |
| Administrative Services Credential | 32 | Registered Dietitian | 5 |
| American Institute of Architects | 30 | Chartered Financial Analyst (CFA) | 5 |
| Source: Burning Glass |

*Note: 82% 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.*

**Table 11. Education Requirements for Education Technology Occupations in Bay Region**

| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **Percent 12 Mos. Postings** |
| --- | --- | --- |
| Associate's degree | 206 | 4% |
| Bachelor's degree | 4,532 | 78% |
| Master's degree and higher | 1,034 | 18% |
| Source: Burning Glass |

*Note: 51% 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.*

## 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/
Statewide CTE Outcomes Survey
Employment Development Department Unemployment Insurance Dataset
Living Insight Center for Community Economic Development
Chancellor’s Office MIS system

## Contacts

For more information, please contact:

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