

Computer Programming Occupations

Labor Market Analysis: Imperial County

September 2026

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL(S) OF EDUCATION
 Do Not Proceed	 	 	☐ Doctorate Degree ☐ Master's Degree ☒ Bachelor's Degree ☐ Associate degree ☐ Some College or Certificate ☐ HS Diploma or Equivalent ☐ Less Than a HS Diploma ☐ Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	MEDIUM 	LOW 	

The San Diego & Imperial Center of Excellence (COE) developed this brief to assist the region's community colleges with strategic planning and program development. Computer Programming Occupations include "Computer Programmers," "Computer Systems Analysts," "Software Developers," and "Web Developers." According to available data, Computer Programming Occupations in Imperial County have a labor market demand of 10 annual job openings (while average demand for a single occupation in Imperial County is 13 annual job openings), and one institution supplies an estimated 107 awards for these occupations. Entry-level wages are above the living wage. This brief recommends that the colleges do not proceed with developing a new program for these occupations and supports a program modification because 1) there is an estimated oversupply in Imperial County; 2) the number of annual job openings is low; and 3) the expected level of education is a bachelor's degree.

Introduction

This report provides labor market information in Imperial County for the following occupational codes in the Standard Occupational Classification (SOC) system:¹

- **Computer Programmers** (SOC 15-1251): Create, modify, and test the code and scripts that allow computer applications to run. Work from specifications drawn up by software and web developers or other individuals. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.
- **Computer Systems Analysts** (SOC 15-1211): Analyze science, engineering, business, and other data processing problems to develop and implement solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions, improve existing computer systems, and review system capabilities, workflow, and scheduling limitations.
- **Software Developers** (SOC 15-1252): Research, design, and develop computer and network software or specialized utility programs. Analyze user needs and develop software solutions, applying principles and techniques of computer science, engineering, and mathematical analysis.
- **Web Developers** (SOC 15-1254): Develop and implement websites, web applications, application databases, and interactive web interfaces. Evaluate code to ensure it meets industry standards and is valid, properly structured, and compatible with browsers and devices.

For the purpose of this report, these occupations are referred to as *Computer Programming Occupations*.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for collecting, calculating, and disseminating data. [bls.gov/soc](https://www.bls.gov/soc)

Projected Occupational Demand

Between 2025 and 2030, businesses in Imperial County will need to hire **10** employees annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example (Exhibit 1). Most of this labor market demand comes from Software Developers, which is projected to have the most annual job openings with **seven** openings each year between 2025 and 2030.

Exhibit 1: Employment Change and Occupational Demand for Computer Programming Occupations in Imperial County (2025-2030)²

Occupational Title	2025 Jobs	2030 Jobs	2025-2030 Net Jobs Change	2025-2030 % Jobs Change	Annual Job Openings (Demand)
Software Developers	88	103	15	17%	7
Computer Systems Analysts	52	53	1	2%	3
Computer Programmers	<10	<10	N/A	N/A	0
Web Developers	<10	<10	N/A	N/A	0
Total	140	156	16	11%	10

Earnings

According to traditional labor market information (LMI), entry-level hourly earnings for *Computer Programming Occupations* with available wage data range from **\$35.16** to **\$45.10** (Exhibit 2).³

Exhibit 2: Hourly Earnings for Computer Programming Occupations in Imperial County⁴

Occupational Title	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Software Developers	\$45.10	\$59.78	\$80.31
Computer Systems Analysts	\$35.16	\$41.16	\$59.05
Computer Programmers	N/A	N/A	N/A
Web Developers	N/A	N/A	N/A

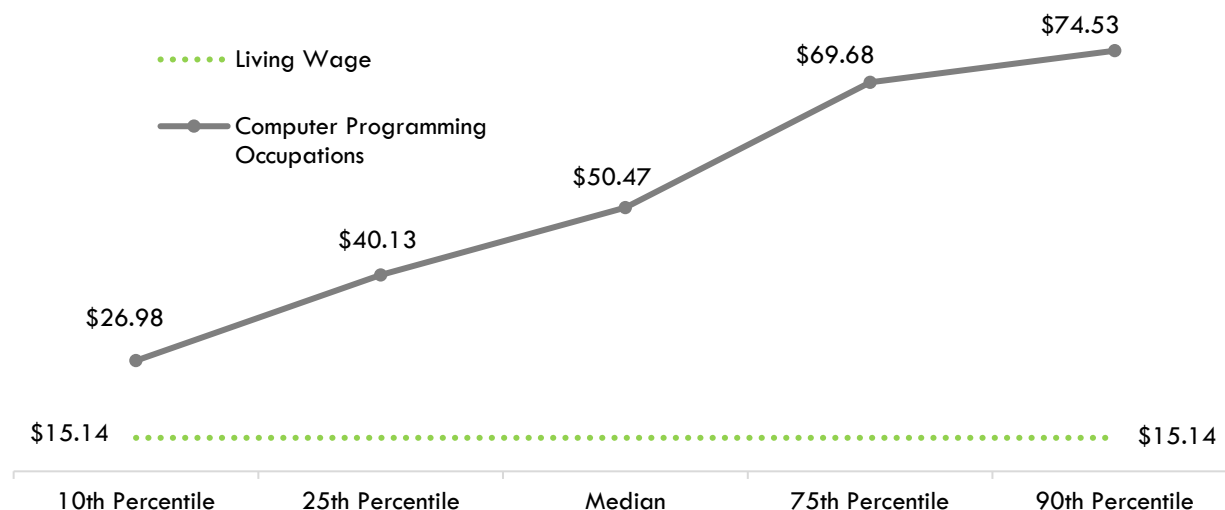
² Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

³ Traditional LMI is generally historical data captured by the U.S. Bureau of Labor Statistics (BLS) or the California Employment Development Department (EDD). It does not account for recent technological, economic, or legislative changes that may affect labor market demand and wages.

⁴ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

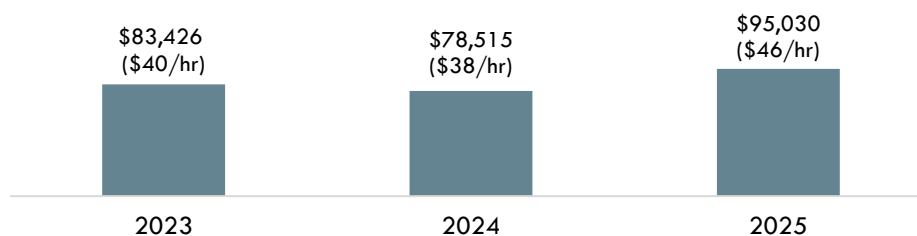
On average, the entry-level hourly earnings for employed *Computer Programming Occupations* are **\$40.13**—or **\$83,470.40** annual salary; this is more than the living wage for a single adult in Imperial County, which is **\$15.14** per hour (Exhibit 3).⁵⁶

Exhibit 3: Average Hourly Earnings for Computer Programming Occupations in Imperial County ⁷⁸



In online job postings, employers advertised median wages between **\$38** and **\$46** per hour between January 1, 2023 and December 31, 2025 for *Computer Programming Occupations* in Imperial County (Exhibit 4). Advertised wages remained above the average entry-level wage reported in traditional labor market information and varied during the period analyzed.⁹

Exhibit 4: Entry-Level Advertised Salaries in Online Job Postings for Computer Programming Occupations in Imperial County (2023-2025)



⁵ Annualized salaries assume a full-time position with 2,080 work hours. Multiplying the hourly wage by 2,080 yields the annual salary.

⁶ Center for Women's Welfare, University of Washington. The Self-Sufficiency Standard for California 2024. selfsufficiencystandard.org/california

⁷ 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

⁸ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

⁹ Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.

Expected Level of Education

According to traditional LMI reported to the California Employment Development Department and U.S. Bureau of Labor Statistics, *Computer Programming Occupations* typically require a [bachelor's degree](#) for entry-level employment (Exhibit 5).¹⁰

Exhibit 5: National Educational Attainment for *Computer Programming Occupations*¹¹

Occupational Title	Typical Entry-Level Education
Computer Programmers	Bachelor's degree
Computer Systems Analysts	Bachelor's degree
Software Developers	Bachelor's degree
Web Developers	Bachelor's degree

Similarly, a bachelor's degree was the most requested listed educational requirement in online job postings for *Computer Programming Occupations* in Imperial County between January 1, 2023 and December 31, 2025. Employers also requested the occupation-related qualifications shown in Exhibit 6.

Exhibit 6: Top Qualifications for *Computer Programming Occupations* in Imperial County in Online Job Postings (2023-2025)¹²

1. Security Clearance
2. Computing Technology Industry Association (CompTIA) Security+

¹⁰ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

¹¹ Lightcast Q3 2026; QCEW, Non-QCEW, Self-Employed.

¹² Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. There are [nine](#) TOP codes and [15](#) CIP codes related to *Computer Programming Occupations* (Exhibit 7).

Exhibit 7: Related TOP and CIP Codes for Computer Programming Occupations¹³

TOP or CIP Code	TOP or CIP Program Title
TOP 0701.00	Information Technology, General
TOP 0702.00	Computer Information Systems
TOP 0702.10	Software Applications
TOP 0706.00	Computer Science (Transfer)
TOP 0707.00	Computer Software Development
TOP 0707.10	Computer Programming
TOP 0707.20	Database Design and Administration
TOP 0707.30	Computer Systems Analysis
TOP 0709.00	World Wide Web Administration
CIP 11.0101	Computer and Information Sciences, General
CIP 11.0102	Artificial Intelligence
CIP 11.0103	Information Technology
CIP 11.0201	Computer Programming/Programmer, General
CIP 11.0202	Computer Programming, Specific Applications
CIP 11.0205	Computer Programming, Specific Platforms
CIP 11.0299	Computer Programming, Other
CIP 11.0501	Computer Systems Analysis/Analyst
CIP 11.0701	Computer Science
CIP 11.0801	Web Page, Digital/Multimedia and Information Resources Design
CIP 11.0802	Data Modeling/Warehousing and Database Administration
CIP 11.0803	Computer Graphics
CIP 15.1202	Computer/Computer Systems Technology/Technician
CIP 15.1204	Computer Software Technology/Technician
CIP 30.3001	Computational Science

¹³ California Community Colleges Chancellor's Office TOP-CIP crosswalk and confirmed program-code selection for this analysis.

According to TOP data, **one** community college supplies the region with awards for these occupations: **Imperial Valley College**. According to CIP data, no non-community college supplies the region with awards (Exhibit 8).

**Exhibit 8: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2022-23 Through Program Year 2024-25 Average)¹⁴**

TOP or CIP Code	TOP or CIP Program Title	3-Yr Annual Average CC Awards (PY22-23 to PY24-25)	Other Educational Institutions 3-Yr Annual Average Awards (PY21-22 to PY23-24)	Total Average Supply (PY21-22 to PY24-25)
0701.00	Information Technology, General	100	0	100
	Imperial	100	0	
	• Associate degree	43	0	
	• Certificate 16 < 30 units	38	0	
	• Certificate 8 < 16 units	19	0	
	• Other credit award < 6 units	1	0	
0702.00	Computer Information Systems	2	0	2
	Imperial	2	0	
	• Associate degree	2	0	
0706.00	Computer Science (Transfer)	5	0	5
	Imperial	5	0	
	• Associate degree	5	0	
Total		107	0	107

¹⁴ California Community Colleges Chancellor's Office Data Mart, program years 2022-23 through 2024-25; National Center for Education Statistics, Integrated Postsecondary Education Data System completions, academic years 2022-23 through 2024-25. Community-college awards were counted by TOP code and excluded from CIP totals to prevent double counting. Averages and components are rounded; displayed rows may not sum exactly to program totals.

Demand vs. Supply

Comparing labor demand with labor supply¹⁵ suggests that there is an oversupply for these occupations in Imperial County, with 10 annual openings and 107 awards. Comparatively, there are 26,770 annual openings in California and 23,629 awards, suggesting that there is a supply gap across the state (Exhibit 9).¹⁶

Exhibit 9: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	Demand (Annual Openings)	Supply (Average Annual Awards)	Supply Gap or Oversupply
Imperial	10	107	-97
California	26,770	23,629	3,141

Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

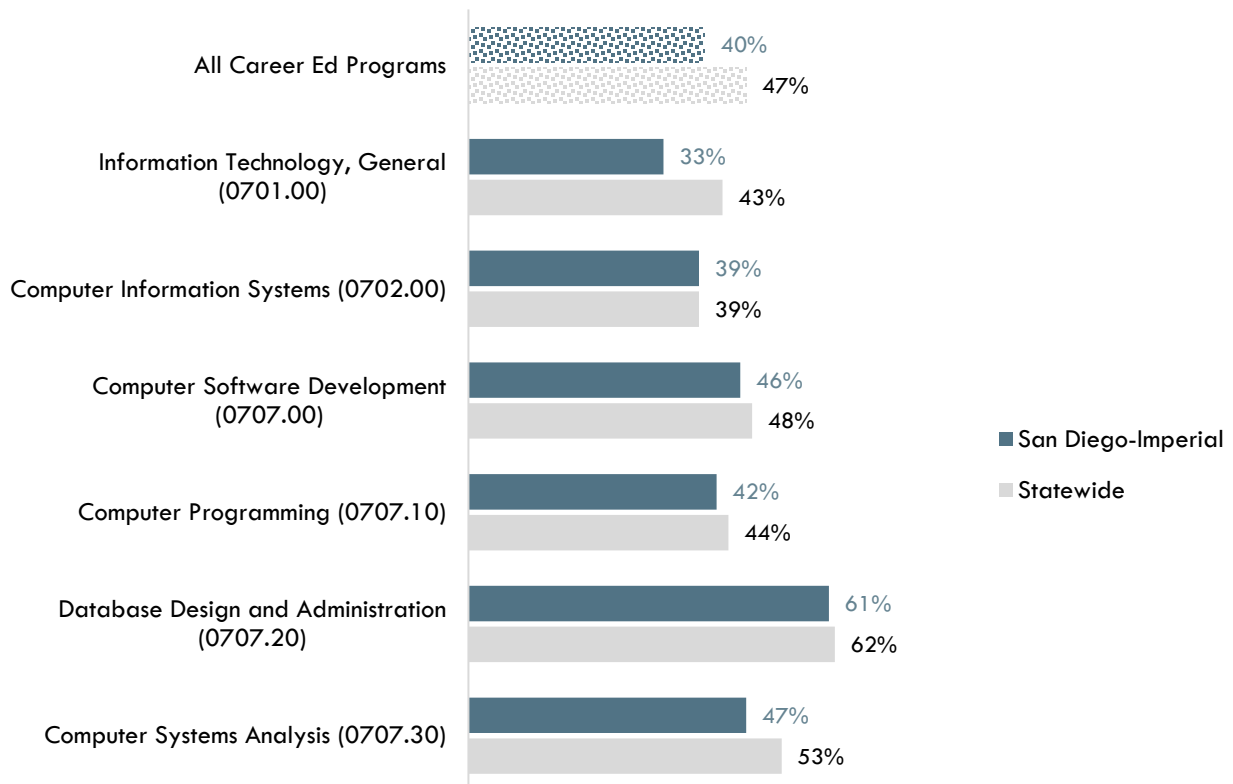
¹⁵ Labor supply can be found from two different sources: Lightcast or the California Community Colleges Chancellor's Office MIS Data Mart. Lightcast uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

¹⁶ Supply and Demand," Centers of Excellence Student Outcomes, coeccc.net/our-resources.

Student Outcomes and Regional Comparisons

According to the California Community Colleges DataVista, 33% to 61% of students in the San Diego-Imperial region earned a living wage after completing a program related to *Computer Programming Occupations*, compared with 39% to 62% statewide and 47% of students in Career Education programs in general across the state (Exhibit 10).¹⁷

Exhibit 10: Percentage of Students Who Earned a Living Wage by Program, PY2023-24¹⁸

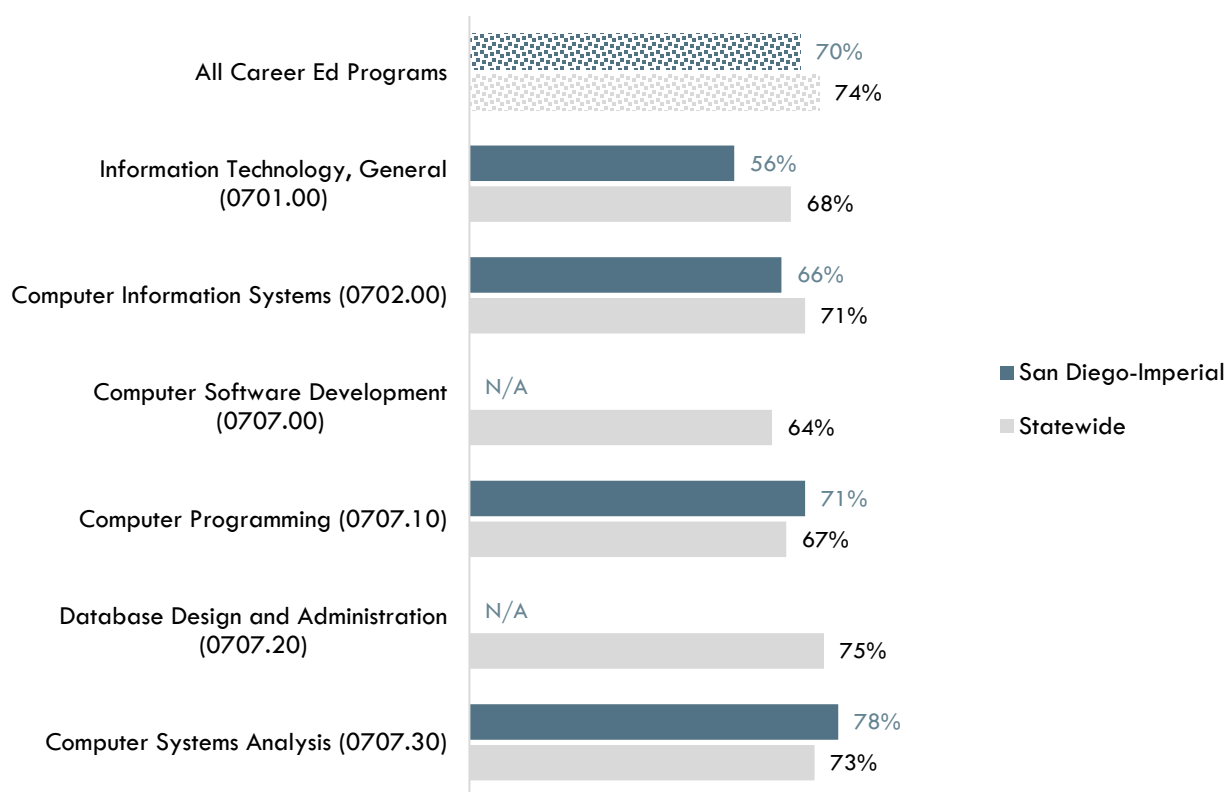


¹⁷ DataVista, California Community Colleges, datavista.cccco.edu/.

¹⁸ Most recent year with available data is Program Year 2023-24. Among completers and skills builders who exited, the percentage of students who attained a living wage.

According to the California Community Colleges DataVista, 56% to 78% of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a program related to *Computer Programming Occupations*, compared with 64% to 75% statewide and 74% of students in Career Education programs in general across the state (Exhibit 11).¹⁹

Exhibit 11: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2022-23²⁰



"N/A" indicates insufficient data

¹⁹ DataVista, California Community Colleges, datavista.cccco.edu/.

²⁰ Most recent year with available data is Program Year 2022-23. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

Employers

Between January 1, 2023 and December 31, 2025, the top employers in Imperial County for *Computer Programming Occupations* included [Imperial Valley College](#), [County of Imperial](#), [BHE Renewables](#), [Pioneers Memorial Healthcare District](#), and [El Centro Regional Medical Center](#), based on online job postings.

Exhibit 12: Top Employers for Computer Programming Occupations in Imperial County²¹

Top Employers	
• Imperial Valley College	• Imperial Irrigation District
• County of Imperial	• State of California
• BHE Renewables	• PetSmart
• Pioneers Memorial Healthcare District	• Hutchinson and Bloodgood LLP
• El Centro Regional Medical Center	• Meadows Union School District

Skills

Exhibit 13 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2023 and December 31, 2025.

Exhibit 13: Top Skills for Computer Programming Occupations in Imperial County²²

Specialized Skills	Soft Skills	Software Skills
• Computer Science	• Research	• Application Programming Interface
• Information Systems	• Customer Service	• Python
• Scalability	• Communication	• Java
• Bilingual	• Information Technology	• SwiftUI
• Agile Methodology	• Interpersonal Communications	• Apple iOS
• Software Development	• Typing	• Objective-C
• Debugging	• Problem Solving	• Swift
• Product Management	• Detail Oriented	• Android
• Testability	• Planning	• LinkedIn Recruiter
• Architectural Patterns	• Mentorship	• Microsoft PowerPoint

²¹ Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025.

²² Lightcast Q3 2026; Job Posting Analytics, January 2023 through December 2025. Skills must populate in at least 10% of job postings to be listed.

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