








Computer Systems Analysts

Labor Market Analysis: Imperial County

May 2021

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL OF EDUCATION
 <p>Do Not Proceed with New Program</p>	 	 	<input checked="" type="checkbox"/> Bachelor's Degree <input type="checkbox"/> Associate Degree <input type="checkbox"/> Some College or Certificate <input type="checkbox"/> HS Diploma or Equivalent <input type="checkbox"/> Less than a HS Diploma <input type="checkbox"/> Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
<p>The COE defers to the region</p>	<p>MEDIUM</p> 	<p>LOW</p> 	

The San Diego-Imperial Center of Excellence for Labor Market Research (COE) developed this brief to assist the region's community colleges with strategic planning and program development. According to available labor market information, *Computer Systems Analysts* in Imperial County have a labor market demand of four annual job openings (while average demand for a single occupation in Imperial County is 14 annual job openings), and one educational institution in Imperial County supplies 11 awards for this occupation, suggesting that there is an oversupply in the labor market. Entry-level wages and median wages for this occupation are above the living wage. This brief recommends that the colleges do not proceed with developing a **new** program but defers to the region for a program modification because 1) there is a low number of annual job openings and 2) there is an oversupply in the region. Colleges should also note that **employers typically require a bachelor's degree or higher as the minimum educational requirement for these occupations.**

Introduction

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

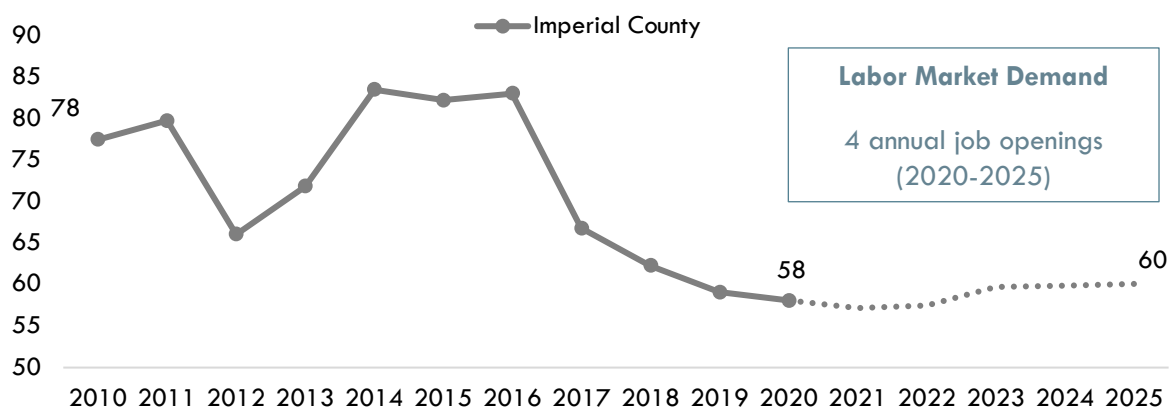
Computer Systems Analysts (SOC 15-1211): Analyze science, engineering, business, and other data processing problems to develop and implement solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions, improve existing computer systems, and review computer system capabilities, workflow, and schedule limitations. May analyze or recommend commercially available software. Sample reported job titles include:

- Applications Analyst
- Business Systems Analyst
- Computer Analyst
- Computer Systems Consultant
- Information Systems Analyst
- Information Technology Analyst
- System Analyst
- Systems Analyst

Projected Occupational Demand

Between 2020 and 2025, *Computer Systems Analysts* are projected to increase by **two** net jobs or **three** percent (Exhibit 1). Employers in Imperial County will need to hire **four** workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

Exhibit 1: Number of Jobs for Computer Systems Analysts (2010-2025)²



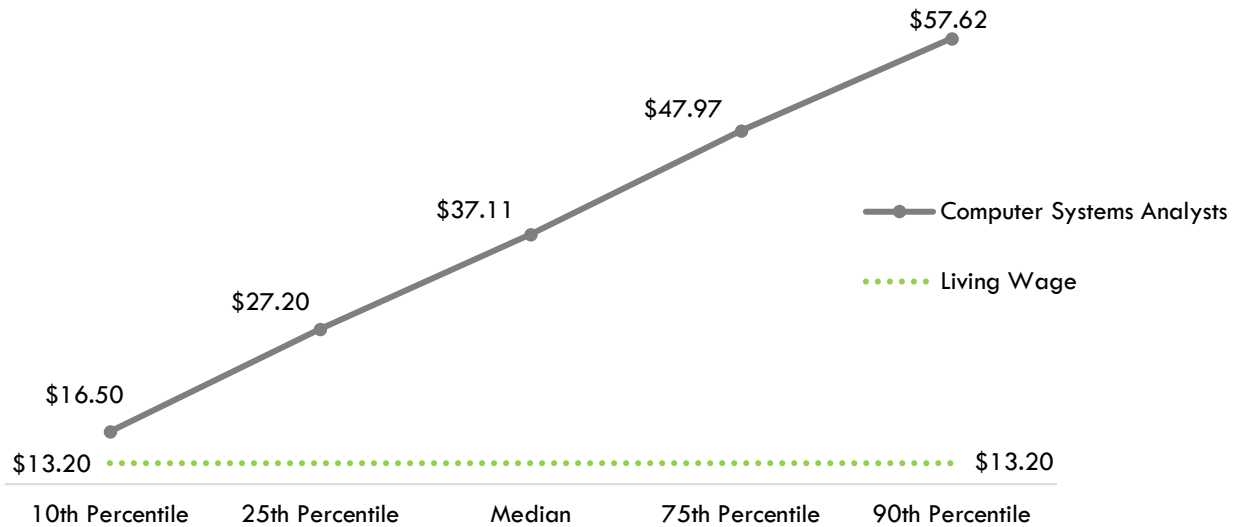
¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. [bls.gov/soc](https://www.bls.gov/soc/).

² EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

Earnings

Computer Systems Analysts receive entry-level hourly earnings of \$27.20; this is more than the living wage for a household of two adults and two school-age children in Imperial County, which is \$13.20 per hour (Exhibit 2).³

Exhibit 2: Hourly Earnings⁴ for Computer Systems Analysts in Imperial County⁵



³ "California Family Needs Calculator (formerly the Self-Sufficiency Standard)," Insight: Center for Community Economic Development, last updated 2018. insightccd.org/2018-self-sufficiency-standard.

⁴ 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.

⁵ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

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.⁶ There are **six** TOP codes and **eight** CIP codes related to *Computer Systems Analysts* (Exhibit 3).

Exhibit 3: Related TOP and CIP Codes for Computer Systems Analysts

TOP or CIP Code	TOP or CIP Program Title
TOP 0509.70	E-Commerce
TOP 0701.00	Information Technology, General
TOP 0702.00	Computer Information Systems
TOP 0707.30	Computer Systems Analysis
TOP 0708.10	Computer Networking
TOP 0708.20	Computer Support
CIP 11.0101	Computer and Information Sciences, General
CIP 11.0103	Information Technology
CIP 11.0199	Computer and Information Sciences, Other
CIP 11.0501	Computer Systems Analysis/Analyst
CIP 11.0901	Computer Systems Networking and Telecommunications
CIP 11.1001	Network and System Administration/Administrator
CIP 15.1202	Computer Technology/Computer Systems Technology
CIP 52.0208	E-Commerce/Electronic Commerce

⁶ TOP data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data).

According to TOP data, **one** community college supplies the region with awards for this occupation: **Imperial Valley College**. According to CIP data, **no** non-community-college institution supplies the region with awards (Exhibit 4).

**Exhibit 4: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2016-17 through PY2019-20 Average)**

TOP or CIP Code	TOP or CIP Program Title	3-Yr Annual Average CC Awards (PY17-18 to PY19-20)	Other Educational Institutions 3-Yr Annual Average Awards (PY16-17 to PY18-19)	3-Yr Total Average Supply (PY16-17 to PY19-20)
0701.00	Information Technology, General	3	0	3
	• Imperial Valley	3	0	
0702.00	Computer Information Systems	8	0	8
	• Imperial Valley	8	0	
			Total	11

Demand vs. Supply

Comparing labor demand (annual openings) with labor supply⁷ suggests that there is an **oversupply** for this occupation in Imperial County, with **four** annual openings and **11** awards. Comparatively, there are **5,939** annual openings in California and **4,731** awards, suggesting that there is a supply gap across the state⁸ (Exhibit 5).

Exhibit 5: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

Community Colleges and Other Postsecondary Educational Institutions	Demand (Annual Openings)	Supply (Total Annual Average Supply)	Supply Gap or Oversupply
Imperial	4	11	7
California	5,939	4,731	1,208

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.

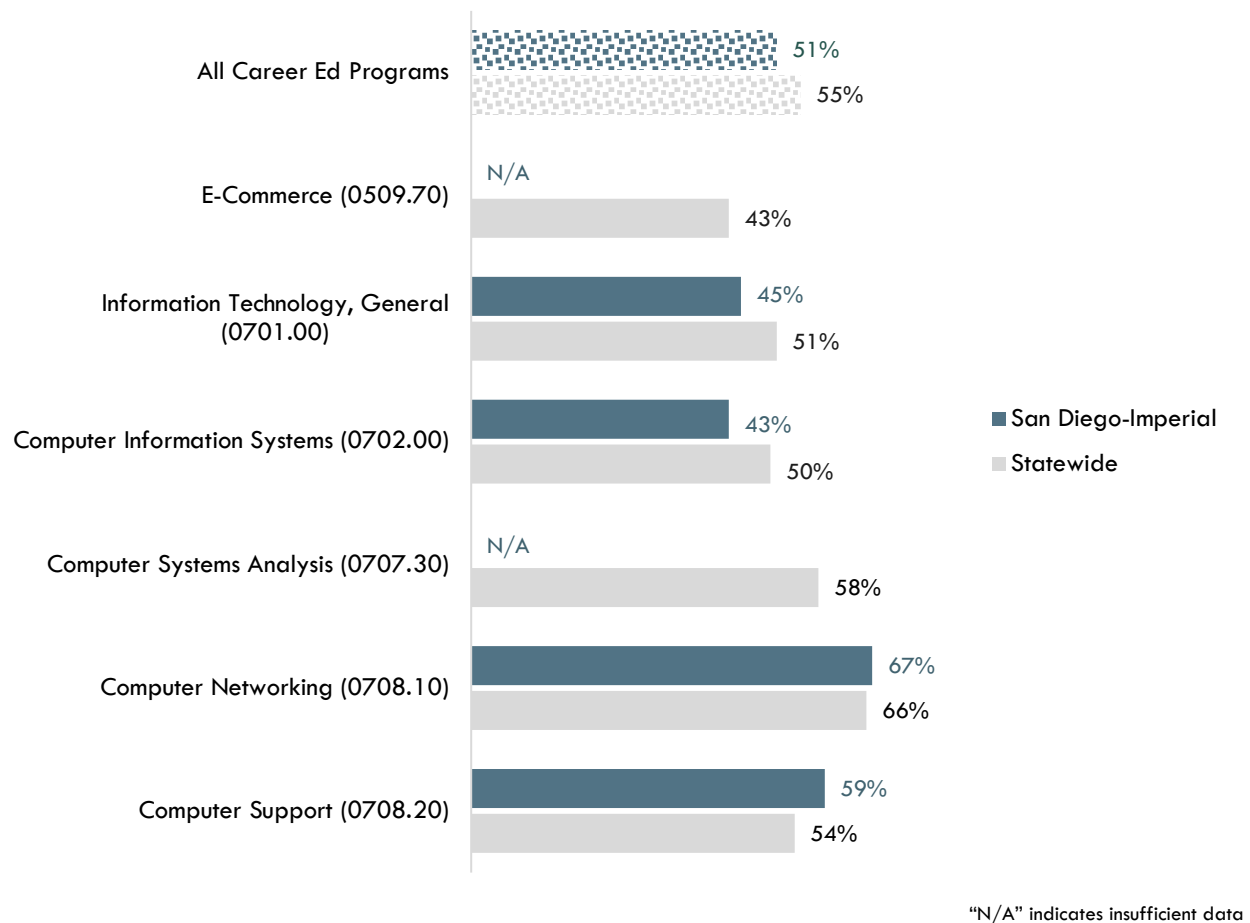
⁷ Labor supply can be found from two different sources: EMSI or the California Community Colleges Chancellor's Office MIS Data Mart. EMSI uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

⁸ "Supply and Demand," Centers of Excellence Student Outcomes, coeccc.net/Supply-and-Demand.aspx.

Student Outcomes and Regional Comparisons

According to the California Community Colleges LaunchBoard, 43 to 67 percent of students in the San Diego-Imperial region earned a living wage after completing a program related to *Computer Systems Analysts*, compared to 43 to 66 percent statewide and 55 percent of students in Career Education programs in general across the state (Exhibit 6a).⁹

Exhibit 6a: Percentage of Students Who Earned a Living Wage by Program, PY2017-18¹⁰

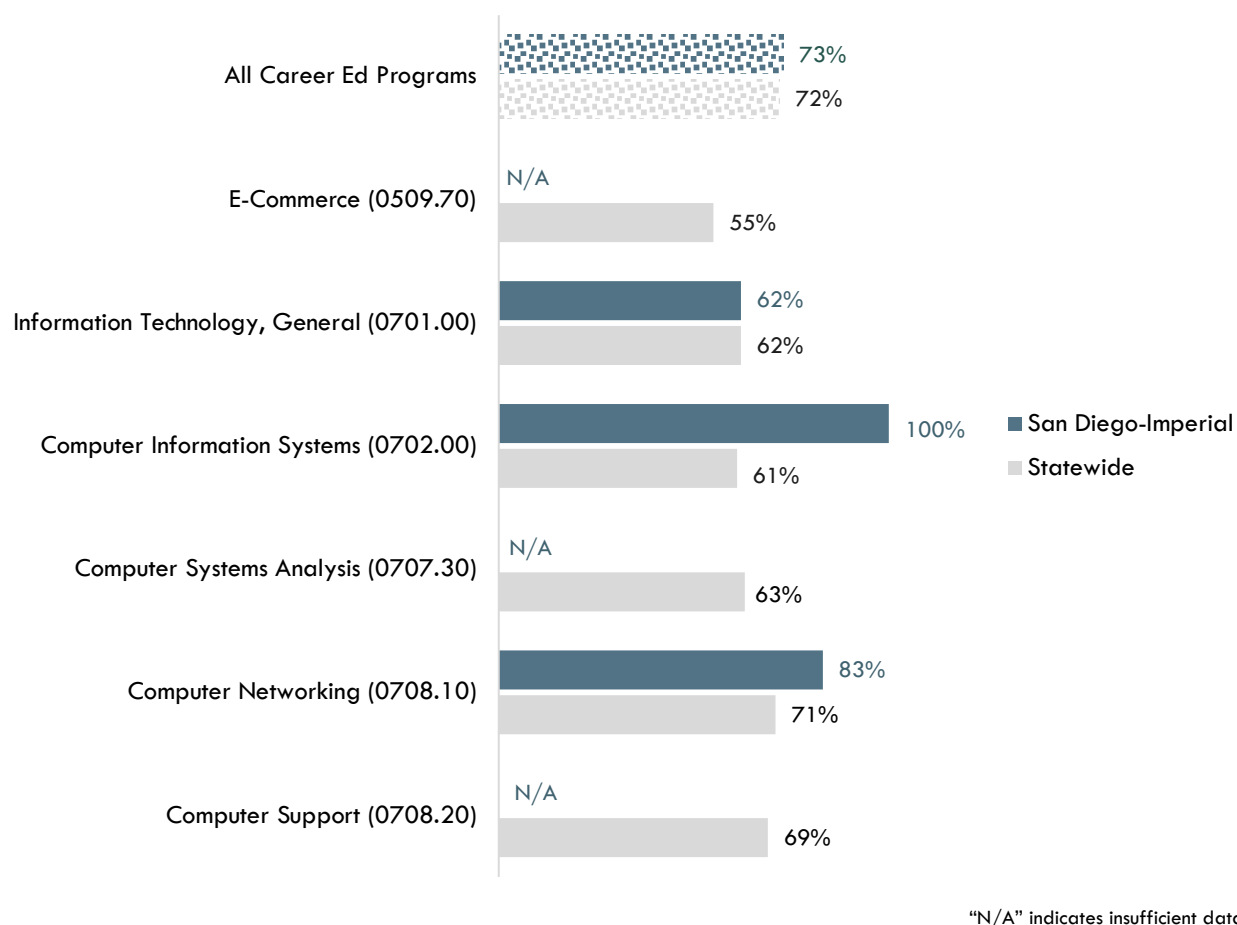


⁹ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹⁰ Among completers and skills builders who exited, the proportion of students who attained a living wage.

According to the California Community Colleges LaunchBoard, 62 to 100 percent 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 Systems Analysts*, compared to 55 to 71 percent statewide and 72 percent of students in Career Education programs in general across the state (Exhibit 6b).¹¹

Exhibit 6b: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2016-17¹²



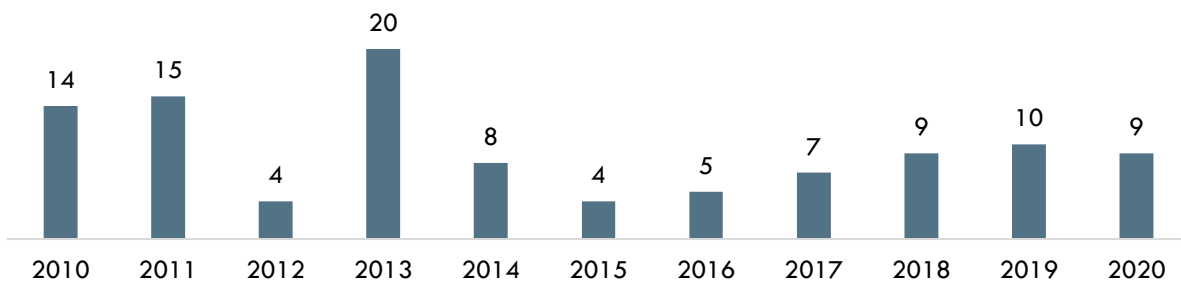
¹¹ "California Community Colleges Strong Workforce Program," California Community Colleges, calpassplus.org/LaunchBoard/SWP.aspx.

¹² Most recent year with available data is Program Year 2016-17. 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.

Online Job Postings

This report analyzes not only historical and projected (traditional LMI) data, but also recent data from online job postings (real-time LMI). Online job postings may provide additional insight about recent changes in the labor market that are not captured by historical data. Between 2010 and 2020, there was an average of 10 online job postings per year for *Computer Systems Analysts* in Imperial County (Exhibit 7). Please note that online job postings do **not** equal labor market demand; demand is represented by annual job openings (see Exhibit 1). Employers may post a position multiple times for various reasons, such as increasing the pool of applicants, for example.

Exhibit 7: Number of Online Job Postings for Computer Systems Analysts in Imperial County (2010-2020)¹³



Top Employers

Between January 1, 2018 and December 31, 2020, the top five employers in Imperial County for this occupation were Imperial Irrigation District, El Centro Regional Medical Center, U.S. Customs and Border Protection, Pioneers Memorial Healthcare District, and FranchiseHelp based on online job postings (Exhibit 8).

Exhibit 8: Top Employers for Computer Systems Analysts in Imperial County¹⁴

Top Employers	
<ul style="list-style-type: none">Imperial Irrigation DistrictEl Centro Regional Medical CenterU.S. Customs and Border ProtectionPioneers Memorial Healthcare DistrictFranchiseHelp, Inc.	<ul style="list-style-type: none">Imperial Valley CollegeLMIMeadows Union ElementaryPremium Retail ServicesSeeley Union Elementary

¹³ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2010-2020.

¹⁴ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Education, Skills, and Certifications

Exhibit 9 indicates the educational attainment for the occupation found currently in the national labor force. The typical entry-level education is a [bachelor's degree](#).¹⁵

Exhibit 9: National Educational Attainment of Computer Systems Analysts¹⁶

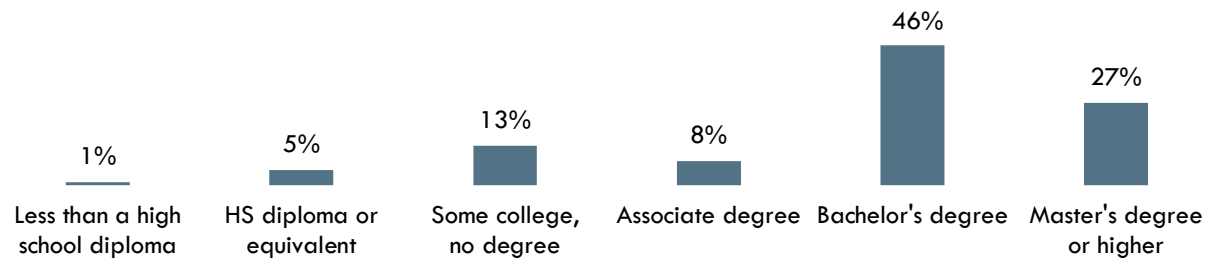


Exhibit 10 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 10: Top Skills for Computer Systems Analysts in Imperial County¹⁷

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> Information Systems Systems Analysis Repair System Administration Systems Engineering Client/Server Compliance Data Analysis Energy Management Energy Management System Legal Compliance Surveillance Budgeting Computer Engineering Experiments 	<ul style="list-style-type: none"> Problem Solving Organizational Skills Planning Positive Disposition Research Teamwork / Collaboration Communication Skills Writing English Leadership Meeting Deadlines Physical Abilities Preparing Reports Written Communication 	<ul style="list-style-type: none"> SCADA Computer Engineering Microsoft Excel Microsoft Outlook Microsoft PowerPoint Microsoft SharePoint Microsoft Word Tableau C++ Java JavaScript Microsoft C# SAP SAP Basis SQL

¹⁵ EMSI 2021.1; QCEW, Non-QCEW, Self-Employed.

¹⁶ "Educational Attainment for Workers 25 Years and Older by Detailed Occupation," Bureau of Labor Statistics, last modified September 4, 2019. bls.gov/emp/tables/educational-attainment.htm.

¹⁷ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Exhibit 11 lists the top certifications that appeared in online job postings between January 1, 2018 and December 31, 2020.

Exhibit 11: Top Certifications for Computer Systems Analysts in Imperial County¹⁸

Top Certifications in Online Job Postings

1. Project Management Certification
2. Project Management Professional (PMP)
3. Security Clearance

¹⁸ Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool." 2018-2020.

Prepared by:

Tina Ngo Bartel, Director (tngobartel@miracosta.edu)

John Edwards, Research Analyst (jedwards@miracosta.edu)

Priscilla Fernandez, Research Analyst (pfernandez@miracosta.edu)

Imperial County-Imperial Center of Excellence for Labor Market Research



Important Disclaimers

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and the report findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

This workforce demand report uses state and federal job projection data that was developed before the economic impact of COVID-19. The COE is monitoring the situation and will provide more information as it becomes available. Please consult with local employers to understand their current employment needs.