



**ECONOMIC &
WORKFORCE
DEVELOPMENT**
through the
CALIFORNIA
COMMUNITY
COLLEGES

**BUSINESS AND WORKFORCE
PERFORMANCE IMPROVEMENT INITIATIVE**



**Strategic Possibilities Report
Orange County**

**Computer Support Specialist
At-a-Glance**



**Center of Excellence, EWD Region 8
Rancho Santiago Community College District
June 2006**



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Strategic Possibility Summary for Orange County Community Colleges

Computer Support Specialist

June 2006

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THE BUSINESS AND WORKFORCE PERFORMANCE IMPROVEMENT INITIATIVE IS A GRANT-FUNDED PROJECT THROUGH THE ECONOMIC & WORKFORCE DEVELOPMENT NETWORK OF THE CALIFORNIA COMMUNITY COLLEGES. OUR MISSION IS TO STRENGTHEN CALIFORNIA'S WORKFORCE AND ADVANCE ECONOMIC GROWTH THROUGH EDUCATION, TRAINING AND JOB DEVELOPMENT.

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The “Computer Support Specialist” occupation in Orange County is projected to grow 26.4% (1,460 jobs) from 2002-2012. Source: Employment Development Department, Labor Market Information Division.

Executive Summary

The US Department of Labor has recognized the Information Technology Industry as a “High Growth” Industry warranting response by the workforce development system. Orange County has a strong Computer Software cluster which is part of this Information Technology Industry.

The Computer Software cluster includes several occupations such as systems database administrators, technical writers, inspectors, and sales representatives, for which a Certificate or Associates Degree is the preferred educational requirement. Of these occupations, one occupation of particular interest to Community Colleges is the Computer Support Specialist. The Computer Support Specialist occupation is expected to have the most job openings in this cluster. The Computer Support Specialist in Orange County is expected to have 1,460 openings from 2002-2012, which is a 26.4% increase¹.

The Computer Support Specialist provides technical assistance and advice to customers. This occupation can provide assistance internally or to outside customers. They troubleshoot and solve technical computer problems as it relates to hardware, software and systems.

Opportunities for a Computer Support Specialist can be found with similar job titles such as Computer Technician, Desktop Support Technician, Help Desk Analyst, or Office Systems Coordinator.

For the community colleges, this occupation represents a strategic possibility to ensure that current program offerings meet the criteria for local workforce training. This opportunity may also justify a community college contract education response for customized training and upgrading the skills of the current computer software workforce.

This is also an opportunity for colleges to create partnerships with the industry to address their recruitment challenges, thereby offering students an opportunity to connect to higher-wage jobs. The colleges could work more directly with employers through creating work experience programs and in using the colleges’ career centers and placement offices.

The following report will outline the criteria used to determine and categorize this occupation as a Strategic Possibility.

¹ EDD, Labor Market Information Division

What is a Strategic Possibility?

The California Community Colleges System has charged the Economic & Workforce Development (EWD) Network to strategically identify growing industries and occupations that have partnering potential for the colleges' programs. The EWD network aims to best serve our local communities by identifying industry sectors with empirically validated projected growth. Additional criteria to establish the value of a Strategic Possibility includes: relevance (to the community colleges), economic impact, the adaptability of colleges to respond, and the ability to build partnerships with workforce and industry leaders to create career paths and upward mobility.

A Strategic Possibility report identifies industries and occupations that meet some, but not all, of the aforementioned criteria. While a response may be appropriate for a specific college, a strategic response from multiple districts is not warranted. A Strategic Possibility that meets all of the stated criteria, thus warranting an organized response from regional community colleges, is then defined as a Strategic Opportunity. A full environmental scan may then be conducted to evaluate and suggest possible actions to ensure market responsiveness. While this report does not present findings which suggest a need for a full environmental scan, we provide these findings for the reader's information and use.

Overview of the Strategic Possibility

The Orange County Workforce Investment Board (OCWIB) has identified 10 Industry clusters within Orange County defined by the major employment sectors. The 6th largest cluster is the Computer Software Cluster and to better understand the workforce needs of this cluster, the OCWIB commissioned a labor market survey.

The labor market survey was completed in January 2005 and includes feedback from 100 Computer Software companies. The results of the survey indicate that overall job growth in this industry is expected to grow by 11% in 2006².

The Computer Software cluster is comprised of firms that publish software, provide customer computer programming & system design services, and Internet Service Providers. The Orange County Computer Software Cluster includes the following North American Industry Classification System (NAICS) areas:

- Software Reproducing (NAICS 334611)
- Software Publishers (NAICS 511210)
- Internet Service Providers (NAICS 518111)
- Office Machinery and Equipment Rental and Leasing (NAICS 532420)
- Custom Computer Programming Services (NAICS 541511)
- Computer Systems Design Services (NAICS 541512)
- Other Computer Related Services (NAICS 541519)

² OCWIB, Computer Software Cluster Survey 2004

Within this cluster, an occupation that stands out is the Computer Support Specialist. This occupation is expected to add 1,460 new jobs, a 26.4% growth from 2002-2012³. During this time frame, there is expected to be an average of 214 job openings per year.

Validation of the Strategic Possibility

The following partners and resources have been used to identify this strategic possibility.

- Employment Development Department, Labor Market Information Data:
 - For workforce projection and labor market information.
- CCbenefits.com:
 - Resource for labor market projections.
- Orange County Workforce Investment Board:
 - Resource for occupational projections, skills, educational requirements and employer challenges.
- United States Department of Labor:
 - Resource for national workforce skill levels.
- Harris Selectory Online Business Database:
 - Resource for local business contacts.

Qualifying the Strategic Possibility

The following sections provide a brief overview describing how this strategic possibility meets the BWPI qualification criteria of Size, Relevance, and Economic Impact.

Size

In Orange County, the Computer Software cluster employed a total of 14,611 people in 2004⁴. The Harris database states that there are a total of 1,371 Computer Software companies in Orange County. From this, there are 317 companies with 25 or more employees.

- 205 companies have 25-49 employees
- 103 companies have 50-99 employees
- 57 companies have 100-499 employees
- 3 companies have 500-999 employees
- 3 companies have 1000-2000 employees

Labor Market Information Data (LMID) projections for 2002-2012, indicate that the Computer Support Specialist will experience an occupational growth of 26.4%.

This growth rate of 26.4% represents a numerical change of 1,460 jobs. On average 146 new jobs will be created each year and an additional 68 openings will occur as people leave the occupation⁵.

³ EDD, Labor Market Information Division

⁴ OCWIB, Computer Software Cluster Survey 2004

⁵ EDD, LMID-Occupational Employment Projections Orange County

Relevance

Relevance is another criteria for the Community Colleges to identify a strategic opportunity. Naturally, programs must fit within the projected niche and core competencies of the community colleges as a local training/education provider.

The desired education attainment level for the Computer Support Specialist is a Certificate or Associate Degree⁶. In some cases, a company will hire a person based on his/her work experience only⁷.

As reported in the OCWIB study, only 16% of companies stated that technical skills for this occupation were important. On the other hand, 47% of companies stated that “Interpersonal and Communication” skills were the most important for this position. Other important skills for this position are critical thinking, troubleshooting, and inductive & deductive reasoning⁸.

The state of California has 109 Community Colleges, of which 101 colleges provide training in General Computer & Information Sciences, and 70 colleges provide training in Other Computer & Information Sciences⁹.

Occupation	# of CA Colleges Providing Training	Occupation	# of CA Colleges Providing Training
Computer & Information Sciences, General	101	Computer Systems Analysis	8
Business Administration & Management, General	94	Management Information Systems & Business Data Processing, General	8
Computer & Information Sciences, Other	70	Business Information & Data Processing Services, Other	6
Computer Programming	56	Logistics & Materials Management	5
Data Processing Tech./Technician	17	Computer Science	2

Source: US DOL, www.careervoyages.com/commcolleges-asl-listws.cfm

Each community college in the Orange County/Los Angeles region offers an occupational training program in Computer & Information Technology. See Appendix B for a list of the specific training programs offered.

Given that the colleges already provide training resources for this occupation, the challenge in this area has been articulated by employers. Employers have indicated that their most important workforce issue is recruiting¹⁰. It was noted that 52% of employers that responded to the OCWIB Labor Market Survey, will have “some difficulty” in recruiting entry-level employees. The data indicates that there is significant room to work with local industry to do a better job at more directly meeting its specific needs.

⁶ OCWIB, Computer Software Cluster Survey 2004

⁷ OCWIB, Computer Software Cluster Survey 2004

⁸ US DOL, www.careervoyages.com

⁹ US DOL, www.careervoyages.com

¹⁰ OCWIB, Computer Software Cluster Survey 2004

Economic Impact

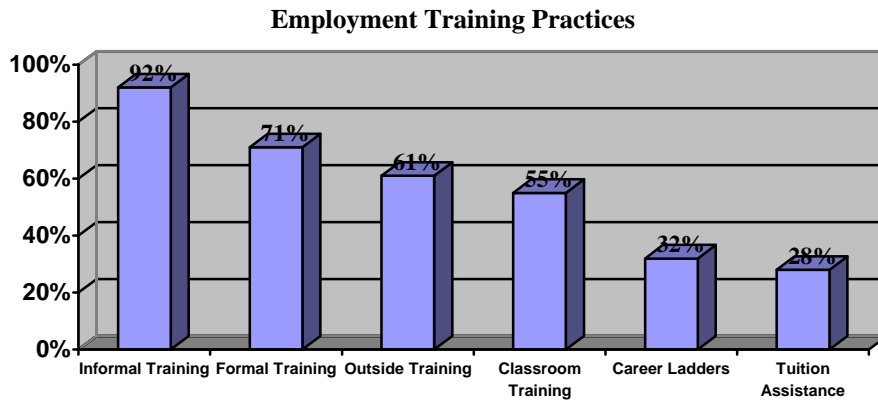
A recent EDD release of 2005 3rd quarter wages indicates that the Computer Support Specialist earns more than the Orange County mean annual wage. The mean annual wage in Orange County is \$42,125 compared to the \$48,029 mean annual wage for the Computer Support Specialist¹¹.

The average entry-level wage in Orange County is \$8.65, compared to the Computer Support Specialist average entry-level wage of \$14.42¹².

The OCBC indicates that the computer software cluster is sensitive to the growth rate of the overall economy. The cluster would reduce over 20% of the jobs in a recessionary environment, expand jobs by 17% in a moderate environment, and add 19% jobs in an expansionary growth environment¹³.

Industry Training Needs & Challenges

The OC WIB industry survey report indicates that 92% of companies in the computer software cluster surveyed prefer “Informal on-the-job training” and that 71% relied on “Formal on-the-job training.” Additionally, 61% offered “Employer-Paid outside training”.



Source: OCWIB Labor Market Survey, Computer Software Cluster 2004

Data Limitations

This report includes recently released data from EDD projecting that between 2002-2012 the Computer Support Specialist occupation will increase by 26.4%. Previous EDD data indicated that the occupation would grow by 59% during 2001-2008. Referencing the 2001-2008 data, this occupation was one of the county’s top ten fastest growing occupations. When applying the updated data through 2012, this occupation is no longer part of this category.

It is also important to note that additional information should be gathered to understand how the movement of jobs overseas is affecting this industry cluster and occupation.

¹¹ EDD, LMID- Occupational Employment Statistics Survey Results

¹² EDD, LMID- Occupational Employment Statistics Survey Results

¹³ OCBC- Workforce Indicators 2005

Industry Related Associations

- Association for Computing Machinery (ACM) www.acm.org
- Association of Computer Support Specialists www.acss.org
- Association of Support Professionals, 122 Barnard Ave., Watertown, MA 02472
- Cisco Systems User Groups (Orange County) www.occug.org
- Computing Technology Industry Association www.comptia.org
- Information Technology Association of America www.ita.org
- Institute of Electronic and Electrical Engineer Computer Society www.computer.org

Summary

The job growth and opportunities for the Computer Support Specialist in Orange County have proven to be a good place for an entry-level employee. This is largely due to the average entry-level wages being over five dollars more than the average entry-level wage in the county. With a Certificate or Associate Degree, a person could be employed by one of the many Computer Software companies in Orange County.

Based on the information gathered, and analyzed against our pre-determined criteria for size, relevance and economic impact, the Computer Support Specialist occupation does not meet all of the criteria for further research to be conducted, especially since the colleges already have organized programs in place to prepare the workforce for software jobs.

However, it may be an opportunity for colleges to offer more short term flexible training or retraining via Contract Education customized training offerings or through fee-based community services classes. Additional suggestions for working with the industry more closely include, building a sufficient pipeline of community college students to meet the industry's needs, working collaboratively on the recruitment issue via campus career centers and placement offices, and exploring the possibility of student internships to expose them to the industry.

A list of potential software company clients that might be contacted can be obtained through the Harris Database by contacting the Orange County Center of Excellence.

References

- Employment Development Department, LMID
- CCbenefits.com
- Orange County Workforce Investment Board
- Harris Selectory Online
- Information Technology Association of America (ITAA), 2003 Workforce Survey, www.ita.org/workforce
- US Department of Labor, High Growth Initiative, Employment and Training Administration
- US Department of Labor, Career Voyages www.careervoyages.gov
- US Bureau of Labor Statistics, Career Guide to Industries

APPENDIX A: How to Utilize this Report

About Us - Description of BWPI

The Business and Workforce Performance Improvement (BWPI) initiative is focused on building the capacity of the colleges in the area of economic and workforce development to enhance their ability to deliver education and training services to businesses and workers in high growth industries, new technologies, and other clusters of opportunities.

The Centers of Excellence (COE) within BWPI provide information regarding workforce trends, increasing awareness and visibility about the colleges economic and workforce development programs and services, and building partnerships with business and industry.

The difference this will make to the colleges is that it will position them as THE workforce partners of choice to business and industry and ensure that college programs are current and responsive. This will contribute to the overall economic vitality of the communities in which they serve.

How to Use This Strategic Possibility Report

The Centers of Excellence within the Business and Workforce Performance Improvement Initiative of the California Community College Economic and Workforce Development Program have undertaken Industry Scanning to provide targeted and valuable information to community colleges on high growth industries and occupations.

This report, while not a full industry scan, is intended to assist the decision-making process of California community college administrators and planners in addressing local and regional workforce needs and emerging job opportunities in the workplace as they relate to college programs. The information contained in this report can be used to guide program offerings, strengthen grant applications, and support other economic and workforce development efforts.

This report is designed to provide current industry data that will:

- Define potential strategic opportunities relative to an industry's emerging trends and workforce needs;
- Influence and inform local college program planning and resource development; and
- Promote a future-oriented and market-responsive way of thinking among stakeholders.

This Industry Scan included a review of the California Regional Economies Project reports and Employment Development Department (EDD) Labor Market Information (LMID) projections that cover the communities in this region, as well as many other sources as listed.

Important Disclaimer:

All representations included in this Environmental Scan product/study have been produced from a secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings. The purpose of the Environmental Scan is to assist the California Community Colleges to respond to emerging market needs for workforce performance improvement. However, neither the Business and Workforce Performance Improvement Centers of Excellence, COE host college or California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon this study including components or recommendations.

APPENDIX B:

Orange County and Los Angeles County Community College Computer Training Programs

APPENDIX B: OC/LA Occupational Programs for Computer Information Technology

Computer and Information Technology	Occupational Programs																										
	Clerical Trainee	Computer Applications	Computer Electronics	Computer Graphics	Computer Information Systems	Computer Information Systems/CISCO	Computer Info Sys/Database Admin	Computer Info Systems/E-Commerce	Computer Information Systems-Java Prog.	Computer Information Systems-LINUX	Computer Info Sys/Microcomputer App	Computer Info Sys/Micro Support/Network Mgmt	Computer Information Systems-Networking	Computer Information Systems-Oracle	Computer Info Sys-Telecommunications	Computer Information Systems-Visual Basic	Computer Information Systems/Web Programming	Computer Info Sys/Windows Networking	Computer Info Systems-Windows Oper Sys Admin	Computer - Local Area Networking	Computer Maintenance Technology	Computer Networking	Computer Operator	Computer Programming	Computer Sciences	Computer Services Technology	
Cerritos		X	X	X	X	X					X						X				X	X		X	X	X	
Citrus												X	X														
Coastline Community						X		X		X								X	X	X		X					X
Compton Community																									X		
Cypress		X		X	X	X		X	X	X	X	X	X			X	X		X			X		X	X		
East Los Angeles		X	X		X																			X	X		
El Camino			X	X	X	X	X	X			X	X				X	X		X	X	X				X		
Fullerton		X		X	X	X		X	X							X	X		X		X			X	X		
Glendale Community	X	X	X		X																X		X	X	X	X	X
Golden West		X		X	X																			X	X	X	X
Irvine Valley		X		X	X	X		X						X		X	X		X	X			X	X	X	X	X
Long Beach City		X			X	X					X													X	X		
Los Angeles City	X	X	X		X	X		X			X					X						X		X	X	X	X
Los Angeles Harbor		X		X	X																						X
Los Angeles Mission		X		X																					X	X	
Los Angeles Pierce	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Los Angeles Southwest																					X	X			X	X	
Los Angeles Trade-Tech		X			X																				X	X	
Los Angeles Valley																											
Mt. San Antonio				X	X			X	X	X			X	X	X	X	X		X			X		X	X	X	X
Orange Coast					X										X										X		
Pasadena City				X	X																			X			
Rio Hondo					X	X																					
Saddleback		X		X	X			X					X									X				X	
Santa Ana		X		X	X																	X			X		
Santa Monica				X	X																		X	X			
Santiago Canyon		X		X	X																				X		
West Los Angeles					X																						

APPENDIX B: OC/LA Occupational Programs for Computer Information Technology

Computer and Information Technology	Computer Office Support	Computer Software Specialist	Computer Systems Analyst	Computer Systems Technology	Computer User Interface	Computerized Accounting/Bookkeeping	Computerized Accounting/Quickbooks	Computerized Accounting/MAS 90	Computerized Accounting/ACCPAC	CST-Sun Solaris	Data Processing	Database Management Systems	Digital Electronics	E-Commerce	File Clerk	General Office	Geographic Information Systems (GIS)	IBM AS/400 Specialist	Information Management	Java Web Programmer	Keyboarding	Local Area Networks	MAPS/GIS	Microcomputer Consulting	Microcomputer Productivity Software	Microcomputer Programming Specialist
Cerritos	X		X			X	X	X					X		X	X		X	X		X					
Citrus																X										
Coastline Community	X									X				X		X							X			
Compton Community											X					X							X			
Cypress		X	X	X		X					X			X		X	X		X	X	X	X	X	X		
East Los Angeles																X										X
El Camino													X									X				
Fullerton		X										X	X	X						X	X					X
Glendale Community		X		X												X				X	X					
Golden West											X			X		X										
Irvine Valley												X								X	X	X				
Long Beach City											X									X	X					
Los Angeles City																X										
Los Angeles Harbor					X															X			X			
Los Angeles Mission																X										
Los Angeles Pierce	X	X	X	X	X	X	X				X	X	X		X	X	X			X	X	X		X	X	X
Los Angeles Southwest											X					X										
Los Angeles Trade-Tech																							X			
Los Angeles Valley																										
Mt. San Antonio				X							X	X													X	
Orange Coast						X	X									X					X					
Pasadena City																X								X		
Rio Hondo																										
Saddleback		X	X											X		X	X		X							
Santa Ana						X	X	X	X							X										
Santa Monica																X										
Santiago Canyon																X										
West Los Angeles											X					X										

APPENDIX B: OC/LA Occupational Programs for Computer Information Technology

Computer and Information Technology	Occupational Programs																									
	Microcomputer Specialist	Microcomputer Technology	Microsoft-Certificated Systems Engineer	Multimedia Tech Skills	Network Cabling Specialist	Network Installation	Network Installation and Design	Networking Technician	Notereader/Transcriber/Scopist	Office Administration	Office and Computer Skills Training	Office Automation Careers	Office Communications	Office Technology	Online Journalism	Online Office Technologies	Programming in C++	Programming in COBOL	Programming in RPG	Programming in Visual Basic	Quantitative Systems-Mngmt.	Receptionist	School Library Media Assistant	Secretarial Studies	Secretary, Bilingual	Secretary, Bilingual Legal
Cerritos	X			X				X	X	X	X	X	X	X	X	X						X		X	X	X
Citrus							X							X										X		
Coastline Community		X	X	X	X	X	X	X				X												X		
Compton Community																								X		
Cypress		X		X				X	X	X	X	X	X				X	X		X	X			X		
East Los Angeles		X						X	X					X										X		
El Camino									X					X						X						
Fullerton	X	X					X		X					X						X						
Glendale Community									X					X			X			X				X		
Golden West									X					X										X		
Irvine Valley																	X	X		X						
Long Beach City					X	X	X		X					X												
Los Angeles City		X							X					X										X		
Los Angeles Harbor				X					X				X	X												
Los Angeles Mission									X																	
Los Angeles Pierce	X	X	X	X		X	X	X	X	X	X	X	X	X	X		X		X		X		X			
Los Angeles Southwest		X												X												
Los Angeles Trade-Tech		X			X				X					X										X		
Los Angeles Valley	X	X							X					X												
Mt. San Antonio														X			X	X	X	X				X		
Orange Coast																	X							X		
Pasadena City			X	X					X					X										X		
Rio Hondo	X																						X			
Saddleback										X				X										X		
Santa Ana		X							X					X										X	X	
Santa Monica											X			X										X		
Santiago Canyon														X										X		
West Los Angeles														X										X		

APPENDIX B: OC/LA Occupational Programs for Computer Information Technology

Computer and Information Technology																	
	Secretary, Executive	Secretary, Legal	Secretary, Medical	Spreadsheet	Stenography	Telecommunications Tech.	Transcriber	Web Author	Web Designer	Web Document Design & Dev.	Web Marketing	Web Master	Web Page Authoring	Web Server Administrator	Website Development and Admin.	Word/Information Processing	Word Processing
Cerritos	X	X	X			X		X	X	X		X	X			X	X
Citrus		X														X	
Coastline Community		X				X				X						X	
Compton Community																X	
Cypress		X			X		X		X				X			X	X
East Los Angeles		X	X													X	
El Camino									X				X		X	X	X
Fullerton								X	X	X	X	X	X	X	X	X	X
Glendale Community	X	X	X														
Golden West		X														X	
Irvine Valley				X				X	X	X			X		X	X	
Long Beach City		X	X													X	
Los Angeles City		X	X					X				X	X			X	
Los Angeles Harbor																	
Los Angeles Mission																	
Los Angeles Pierce	X	X		X				X	X	X		X	X	X	X	X	X
Los Angeles Southwest																X	
Los Angeles Trade-Tech																X	
Los Angeles Valley																	
Mt. San Antonio		X	X			X											
Orange Coast									X								
Pasadena City						X										X	
Rio Hondo																	
Saddleback									X			X				X	
Santa Ana		X						X	X		X			X		X	
Santa Monica																	
Santiago Canyon																X	
West Los Angeles																X	