

GLOBAL TRADE AND LOGISTICS LABOR MARKET GAP ANALYSIS

San Diego & Imperial Counties

June 2014



Prepared by:

Center of Excellence for Labor Market Research
California Community Colleges
San Diego-Imperial Region



This report is a partnership effort of:



For information about the study contact:

Zhenya Lindstrom
Center of Excellence
San Diego-Imperial Region
909-652-7753
zhenya.lindstrom@chaffey.edu
www.coecc.net

For information about the Global Trade and Logistics Initiative contact:

Victor Castillo
Director & Deputy Sector Navigator Global Trade & Logistics
Center for International Trade Development (CITD), Southwestern College
619.482.6494
vcastillo@swccd.edu
www.sandiegocitd.org

Important Disclaimer All representations included in this report have been produced from 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; however, the Centers of Excellence of the California Community Colleges Chancellor's Office, are not responsible for applications or decisions made by recipient community colleges or their representatives based upon components or recommendations contained in this study.

© 2014 California Community Colleges Chancellor's Office

Contents

Executive Summary..... 4

Introduction..... 5

Methodology 6

Industry Overview 6

Occupational Overview 10

Education and Training 15

Conclusions & Recommendations..... 18

References..... 21

Appendix A: How to use this report..... 22

Appendix B: Exports to Mexico 23

Appendix C: Sample Job Postings 24

Appendix D: Employers with the Most Job Openings 27

Appendix E: International Business Programs Offered by Colleges & Universities..... 28

Executive Summary

Despite the economic recession, the value of exports from San Diego has continually increased since 2009. The value of exports in 2012 totaled nearly \$20 billion, up from around \$14 billion in 2009.

Deputy Sector Navigator for Global Trade & Logistics – San Diego and Imperial Region (DSN-GTL) and the Center for International Trade Development (CITD) at Southwestern College is a grantee under the California Community Colleges “Doing What Matters for Jobs and the Economy” program, with a focus on its region’s global trade and logistics cluster. DSN-GTL and CITD commissioned the Centers of Excellence to prepare the Labor Market Gap Analysis for San Diego and Imperial Counties.

The objectives of this study were to identify and measure San Diego’s export activity, workforce trends, and employer job requirements and hiring trends. This report also sought to document how institutions of higher education in the San Diego region are preparing students to enter the field of international business and trade. The Center of Excellence analyzed data using the Standard Occupational Classification (SOC) titles and mainly relying on the employer job posting data from the Burning Glass Labor Insight tool. In addition, data from the Integrated Postsecondary Education Data System (IPEDS) and California Community Colleges Chancellor’s Office Data Mart System were used to evaluate whether international business programs at colleges and universities in the region are preparing students to meet employer demand.

The report’s highlights and key findings include:

- San Diego’s top exports are computer and electronic products (\$3.8 billion), transportation equipment (\$2.2 billion), machinery (\$2.1 billion), chemicals (\$1.4 billion), and plastics & rubber products (\$1.2 billion).
- The total export value of goods sent to Mexico in 2012 was \$18.9 billion. In comparison, the total combined export value for the rest of San Diego’s top trade partners—Japan, Malaysia, Switzerland, and the United Kingdom—is only \$500 million.
- The value of exports to Mexico has steadily increased. The value of exports to Mexico in 2009 was \$13.7 billion, compared to \$18.9 billion in 2012.
- Job titles with the most hiring postings in the region were shipping, receiving, and traffic clerks; logistics analysts; logisticians; market research analysts and marketing specialists; supply chain managers; and customs brokers.
- The most job postings in 2013 were for shipping clerks. This occupation requires at least a high school diploma or associate degree.
- More than half of job postings required a bachelor’s degree.
- Technical skills most in demand by employers posting jobs online were: logistics, supply chain management, purchasing and procurement, inventory management, and enterprise resource planning.
- Soft skills most in demand were: Microsoft software, management and leadership skills, organizational skills, communication skills, and the ability to write well.

The study also concludes that universities and community colleges in the San Diego region appear to be meeting demand for workers with a background in international trade. The study’s analysis shows that community colleges are succeeding in attracting and retaining students.

Exports from San Diego have increased every year since 2009, by as much as 16% in one year. In 2012, exports from San Diego totaled \$19.8 billion.

-Center of Excellence study findings

Introduction

San Diego County serves as an important regional trade hub between the United States and Mexico. Overall, Mexico is the United States' third largest trade partner. The United States' exports to Mexico totaled \$224 billion in 2011, the latest data available for goods and services, according to the Office of the U.S. Trade Representative.¹

Within the United States, Texas is the largest exporter of goods to Mexico, accounting for 44% of all U.S. exports to Mexico.² California is second. In 2010, California gateways with Mexico moved \$46.9 billion in merchandise.³ One of the most important trade gateways to San Diego is the Otay Mesa Port of Entry on the California-Mexico border. More than \$32.8 billion dollars of imports and exports were transported through the Otay Mesa Port of Entry in 2011, according to the Otay Mesa Chamber of Commerce.⁴

Another key gateway is the Port of San Diego. The port's maritime business generates about \$7.6 billion in regional economic impact and accounts for 42,000 jobs in the region.⁵ The port's revenue generation, however, has flattened in recent years. In 2008, revenue peaked at \$46 million, but steadily declined to \$36 million in 2011. According to the San Diego Metropolitan Export Initiative, export activities in the San Diego metro area support a total of 113,400 jobs.⁶ However, San Diego has struggled to make significant gains in export growth for nearly a decade, and is nationally ranked 55th, after Albuquerque, for export intensity, according to the initiative.

In addition to Mexico, San Diego's top export markets include Japan, China, and the United Kingdom. According to the Global San Diego Export Plan, these top export markets are comparable to the top export markets for the nation, but over the past 10 years, San Diego's exports have been shifting focus, from Atlantic-based trade to the Pacific Rim.⁷ The report states: "Exports to European markets have slowed while exports to Southeast Asia, East Asia and Latin America have grown. China, Korea, Brazil, Singapore, and Taiwan have emerged as San Diego's fastest growing foreign markets for exports."

According to the San Diego Export Assistance Center, the nearly 900 manufacturing-for-export businesses in Baja Mexico present a growing opportunity in international trade. "To increase their worldwide competitiveness, many of these companies are aggressively seeking local suppliers from Southern California and the border region to meet their needs," according to the center.⁸

¹ Office of the United States Trade Representative. "U.S.-Mexico Trade Facts." <http://www.ustr.gov/countries-regions/americas/mexico>

² Milken Institute. "Strategies for expanding California's exports." September 2012. http://www.milkeninstitute.org/pdf/Calif_export_promotion.pdf

³ California Legislative Information. AB-690 State government: international relations. http://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201320140AB690&search_keywords=%22local+agency%22

⁴ Otay Mesa Chamber of Commerce. "Border Crossing Information." <http://www.otaymesa.org/category/member-resources/border-crossing-information>

⁵ Unified Ports of San Diego. "Ports bring home the goods." <http://www.portofsandiego.org/portals/working-waterfront.html>

⁶ San Diego Metropolitan Export Initiative. "Market assessment: Fast Facts." May 2013. <http://www.sandiegobusiness.org/sites/default/files/BROOKINGS-FASTFACTS-F-0513.pdf>

⁷ San Diego Metropolitan Export Initiative. "Global San Diego Export Plan." May 2013. <http://www.sandiegobusiness.org/sites/default/files/Export%20plan%20FINAL.pdf>

⁸ San Diego Export Assistance Center. <http://export.gov/california/sandiego/index.asp>

Methodology

This study presents an analysis of labor market and job posting data for international trade in San Diego and Imperial Counties Region. The findings of this report are the result of a variety of research methods. Traditional labor market data was not available for occupations related to international trade. For example, the North American Industry Classification System (NAICS) could not be used for analysis because no NAICS codes have been assigned to international trade.

The Standard Occupational Classification (SOC) System was used to identify specific occupations related to international trade to help determine workforce demand. SOC codes related to cargo and freight agents, shipping and receiving clerks, logisticians, and market research analysts and market specialists were used. However, the publicly available labor market data collected for these occupations are not limited to international trade operations, but rather captures employment for these titles across a wide variety of industries (many not engaged in international business).

In order to understand employer demand for workers trained in international business, employer online job postings information was obtained using the Burning Glass Technologies Labor Insight searches. Job posting data were compiled and examined to identify employer needs and trends in hiring. Search criteria included eight occupational titles and keywords related to international trade. Job postings for San Diego and Imperial Counties from January to December of 2013 were analyzed.

To further gauge employer engagement needs, a roundtable event was organized by was organized by the Deputy Sector Navigator for Global Trade and Logistics – San Diego and Imperial Region (DSN-GTL) and the Center for International Trade Development (CITD) at Southwestern College, and held April 8, in San Diego. Employer responses were collected and compiled by BW Research Partnership.

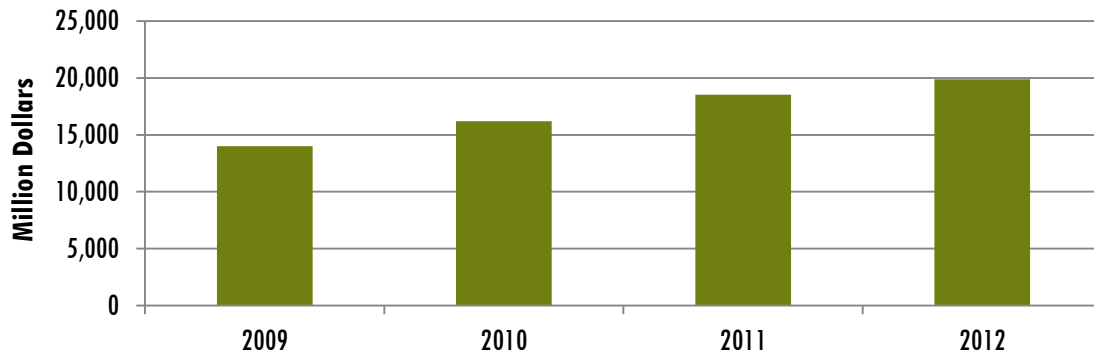
University and college program completion data related to “international business” were analyzed using the California Community Colleges Chancellor’s Office Data Mart system and the Integrated Postsecondary Education Data System (IPEDS). For more information on the data sources use to develop this report, please refer to Appendix A.

Industry Overview

California’s economy relies heavily on its international ports. Coastal cities in particular depend on trade for their economic well-being. San Diego’s geographic proximity to the Mexican border and the Pacific Rim provide the city with a strategic location for international trade. In addition, in 1988, the United States designated San Diego a Foreign-trade Zone, providing a competitive advantage to companies with manufacturing or distribution operations located in the federal zone. In 2012, the value of exports from San Diego totaled \$19.8 billion.

Between 2009 and 2012, San Diego exports have substantially increased despite the economic recession. Exports have increased every year since 2009, but they increased most rapidly from 2009 to 2010 (Figure 1). Between 2009 and 2010, exports grew by 16%. From 2010 to 2011, growth was slightly lower, about 14%. Growth slowed a bit between 2011 and 2012, but still increased by 7% over a 12-month period.

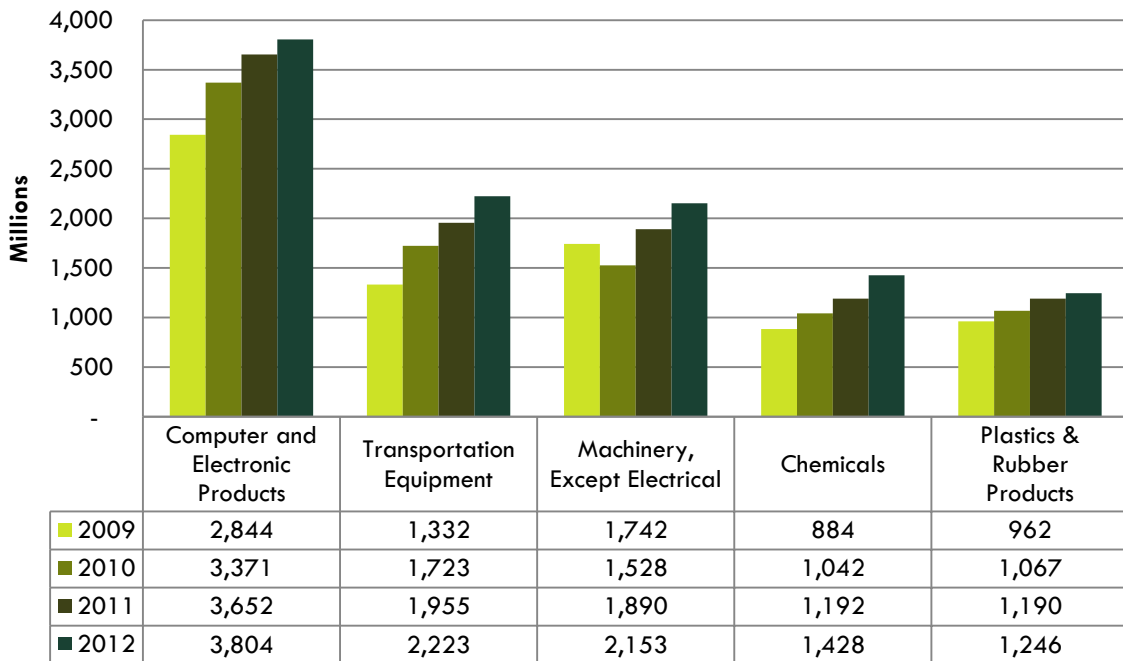
Figure 1 - Growth in San Diego Exports from 2009 to 2012



Export Industries

Using codes from the North American Industry Classification System (NAICS), the Center of Excellence was able to analyze San Diego's top exports. The five top commodity exports were identified as computer and electronic products, transportation equipment, machinery (except electrical), chemicals, and plastics & rubber products (Figure 2).

Figure 2 - Top 5 Commodity Exports, All Countries, 2009-2012 (in Millions)



Computer and electronic products (NAICS 334) were the most valuable export commodities in 2012 and totaled \$3.8 billion. This commodity export has consistently remained San Diego's top export through 2012 and has continued to increase each year.

San Diego's second most valuable export commodity is transportation equipment (NAICS 336). Between 2009 and 2012, transportation equipment increased by 60%, from \$1.3 billion to \$2.2 billion. Meanwhile, machinery (NAICS 333) increased from \$1.7 billion to \$2.1 billion.

Of the five top commodity exports, chemicals (NAICS 325) and plastics & rubber products (NAICS 326) comprise the smallest segments. In 2012, chemicals totaled \$1.4 billion, and plastics & rubber products totaled \$1.2 billion.

Export Destinations

Mexico is San Diego's No. 1 trade partner. The total export value of goods sent to Mexico in 2012 was \$18.9 billion, a number which eclipses the total export value of four of San Diego's next largest trading partners combined. The total export value for Japan, Malaysia, Switzerland, and the United Kingdom combined is \$500 million (Table 1).

In 2012, exports to Japan totaled \$149 million. Likewise, exports to Malaysia also totaled \$149 million.

Table 1 - Top Export Countries Other Than Mexico, 2012 (in millions)

Country	2009	2010	2011	2012
Japan	21	47	64	149
Malaysia	6	14	28	149
Switzerland	1	92	135	143
UK	13	20	36	59

Computer and electronic equipment is a top export commodity to Japan, Malaysia, Switzerland, and the United Kingdom (Table 2).

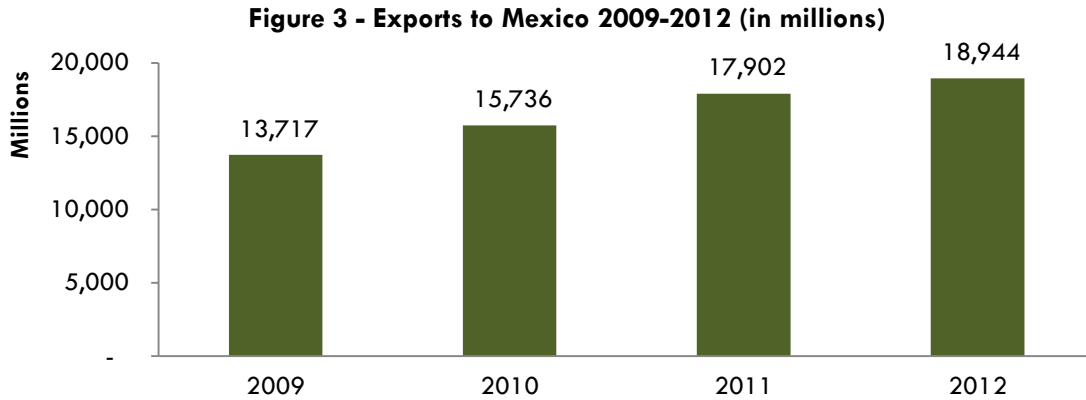
Other top exports to Japan are chemicals and agricultural products. Besides computer and electronics equipment, top exports to Malaysia are machinery, miscellaneous manufactured commodities, and chemicals. Switzerland's most in-demand exports are primary metal manufactured commodities and miscellaneous manufactured commodities. The top export to the United Kingdom is chemicals.

Table 2 - Top Exports to Countries Other than Mexico, 2012

Japan	
Computer and Electronic Equipment	111 Million
Chemicals	12 Million
Agricultural Products	5 Million
Electrical Equipment	5 Million
Transportation Equipment	4 Million
Malaysia	
Machinery, Except Electronic	129 Million
Computer and Electronic Equipment	17 Million
Miscellaneous Manufactured Commodities	1.9 Million
Chemicals	190 Thousand
Electrical Equipment	180 Thousand
Switzerland	
Primary Metal Manufactured Commodities	141 Million
Miscellaneous Manufactured Commodities	1.6 Million
Computer and Electronic Equipment	400 Thousand
Chemicals	200 Thousand
Fabricated Metal Products, Nesoi	40 Thousand
UK	
Chemicals	23 Million
Computer and Electric Equipment	17 Million
Machinery, except electronic	4.8 Million
Miscellaneous Manufactured Commodities	4.1 Million
Transportation Equipment	3.8 Million

Exports to Mexico

The total value of exports to Mexico has steadily increased since 2009 (Figure 3). The value of exports to Mexico in 2009 was \$13.7 billion. Despite the economic downturn, the export value in 2010 increased by \$2 billion to \$15.7 billion. In 2011, the value of exports totaled nearly \$18 billion. In 2012, the export value gained another billion dollars and rose to \$18.9 billion.

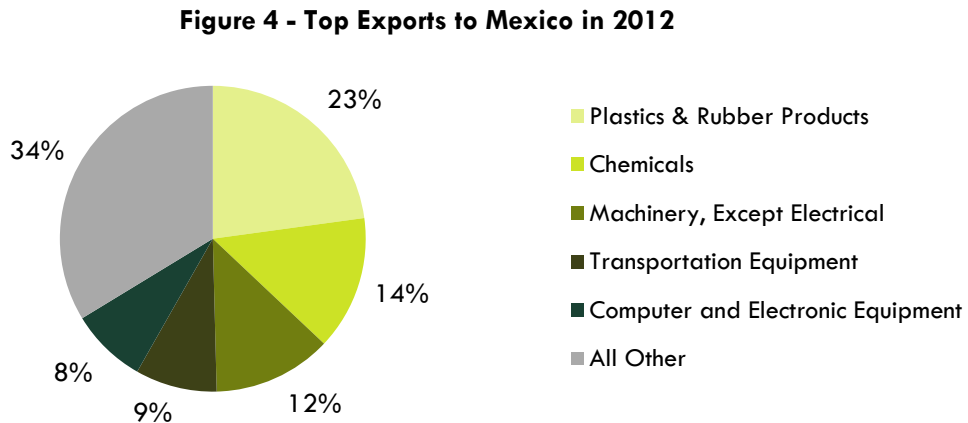


Top Exports to Mexico

As mentioned earlier, the Center of Excellence identified San Diego's top five export commodities. Further analysis was conducted to gain a clearer picture of Mexico's demand for these commodities (Figure 4).

Interestingly, while computer and electronic products constitute San Diego's top export, this commodity consists of only 8% of exports to Mexico.

Plastics and rubber products comprised 23% of exports while 34% of exports fell into the "other" category. Chemicals made up 14% of exports to Mexico, with machinery following at 12%. Transportation equipment was 9%.



The value of plastics and rubber products exported to Mexico was \$3.5 billion in 2012 (Table 3). Chemicals totaled \$2.1 billion, with machinery valued at nearly \$2 billion. The export value of transportation equipment was higher than computer and electrical equipment, \$1.3 billion compared to \$1.2 billion.

Other highly valued commodities exported to Mexico include paper, agricultural products, oil & gas, apparel & accessories, and textiles & fabrics. (See Appendix B for a complete list.)

Table 3 - Top 10 Exports to Mexico in 2012

Commodity	Export Value (In Millions)
Plastics & Rubber Products	3,518
Chemicals	2,187
Machinery, Except Electrical	1,934
Transportation Equipment	1,330
Computer and Electronic Equipment	1,242
Fabricated Metal Products, Nesoi	1,233
Electrical Equipment, Appliances & Components	1,116
Food & Kindred Products	1,069
Primary Metal Manufactured Commodities	971
Miscellaneous Manufactured Commodities	801

Occupational Overview

The following section identifies and provides details on the most common international business related positions in the San Diego and Imperial Counties Region. Table 4 includes the number of job postings in San Diego related to international trade, job titles, in-demand skills, and educational requirements. The information is based on an analysis of job posting data aggregated by Burning Glass.⁹ ***It is possible that more job postings exist than those included in the data analysis since Burning Glass relies only on online job postings, and not job postings published elsewhere.*** Sample job postings are included in Appendix C.

The data analyzed seem to indicate that the top job titles related to international business require mostly four-year degrees. The majority of the job titles require at least a bachelor's degree. Only two job titles—shipping, receiving, & traffic clerk and cargo and freight agent—required less than a bachelor's degree.

The occupation of shipping clerks had the most job postings and requires skills related to scheduling, cycle counting, and inspection. This occupation requires at least a high school diploma or associate degree. The occupations of logistics analysts and logisticians had the highest number of job openings following shipping clerks.

Logistics analysts must have knowledge of supply chain management and material control. This occupation typically requires a bachelor's degree. Bachelor's degrees tend to be required for logisticians, who must have an understanding of logistics management and logistics strategies.

⁹ It should be noted that no SOC codes are directly related to international business. As a result, Burning Glass was used to identify related occupations. Burning Glass enables selection criteria to be narrowed down through key words. Key words that were used to identify related occupations included customs, export, and import.

Table 4 - International Trade Occupations in San Diego (2013)

Job Title	No. of Job Postings	Skills in Demand	Educational Requirements
Shipping, Receiving, and Traffic Clerks	27	Scheduling, Cycle Counting, Inspection	High School Diploma or Associate Degree
Logistics Analysts	24	Supply Chain Management, Material Control, Supply Chain Knowledge	Bachelor's Degree
Logisticians	19	Logistics Management, Logistics, Logistics Strategies	Bachelor's Degree
Market Research Analysts And Marketing Specialists	16	Market conditions, Marketing campaigns	Bachelor's Degree
Supply Chain Managers	12	Production and Processing, Transportation, Inventory Management	Bachelor's or Graduate Degree
Customs Brokers	9	Imports, Exports, Government Regulations	Bachelor's Degree
Cargo and Freight Agents	6	Shipping, Transportation, Cargo Routes, Billing and Tariffs	High School Diploma
Logistics Managers	5	Purchasing, Warehousing, Distribution, Forecasting, Logistics Systems	Bachelor's Degree

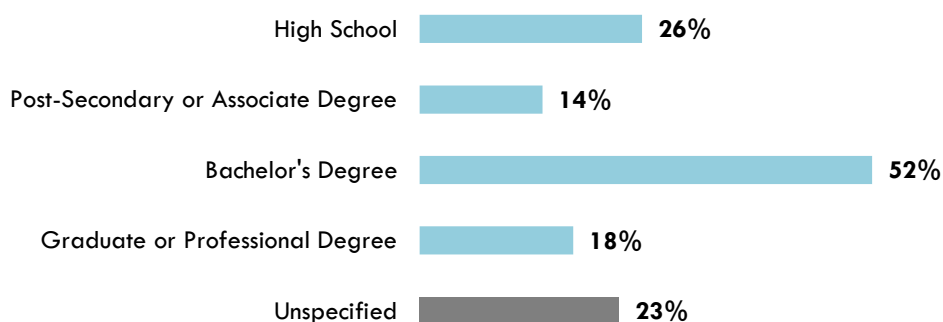
Source: Burning Glass Labor Insight, 2013

Education and Skills Most in Demand

Through Burning Glass, the qualifications required for jobs related to international trade were analyzed. A total of 113 job postings were identified.

- Of those, 45 (40%) required a high school diploma or associate degree.
- More than half of job postings required a bachelor's degree.
- And 26 (23%) did not specify education requirements (Figure 5).

Figure 5 – Educational requirements specified in job ads

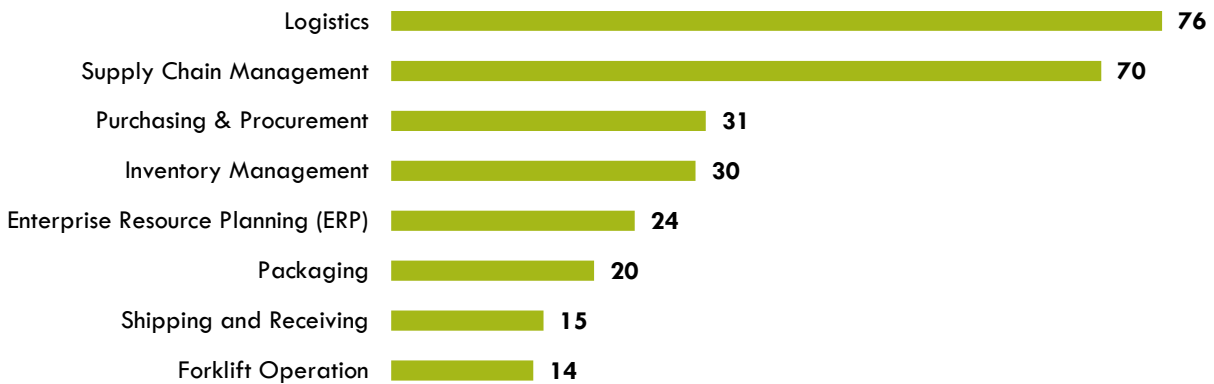


Specialized skills, also known as technical skills were identified and sorted (Figure 6).

Among the technical skills analyzed, the highest demand was for skills associated with logistics. Logistics skills were listed in the greatest number of job postings. Supply chain management skills were also highly in demand. Purchasing and procurement and inventory management—skills related to logistics and supply chains—were also highly sought after.

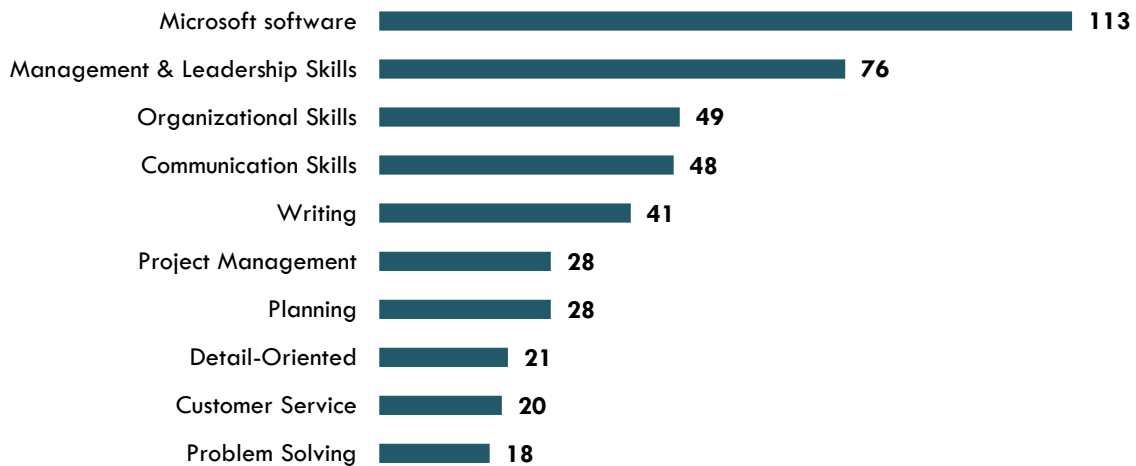
Knowledge of Enterprise Resource Planning, a type of business management software that can be used for manufacturing, product planning, and marketing and sales, was specifically listed in 24 job postings.

Figure 6 - Technical Skills in Highest Demand – Job postings (Jan-Dec, 2013)



The most prevalent soft skill listed in job postings was proficiency with Microsoft software, including such programs as Word, Excel, PowerPoint, and Outlook (Figure 7). Management and leadership skills, including supervisory skills, were the second most sought after category. Organizational skills also figured prominently in job postings. The ability to write as well as prepare written reports was listed in 41 job postings.

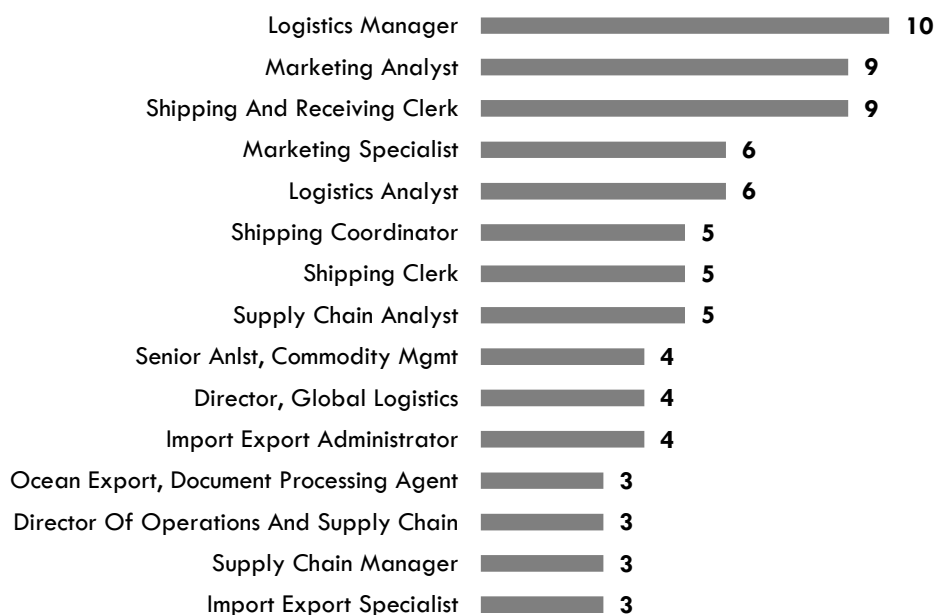
Figure 7 - Soft Skills in Highest Demand – Job postings (Jan-Dec, 2013)



Occupational Hiring Trends

Job posting data were analyzed to determine for which occupational areas employers are hiring. The analysis of job postings shows that the most in demand workers in the San Diego-Imperial region are logistics managers, marketing analysts, shipping and receiving clerks, and marketing specialists (Figure 8).

Figure 8 - International Trade Occupations in Highest Demand – Job postings (Jan-Dec, 2013)



Industries that hire international trade specialists were also analyzed. The industries with the most job postings related to international business were the following:

- Professional, scientific, and technical services (25 job ads)
- Transportation equipment manufacturing (11)
- Ambulatory healthcare services (7)
- Computer and electronic product manufacturing (6)
- Chemical manufacturing (3)

By examining the employer job postings for international trade occupations for all 12 months of 2013, the employers with the most job openings in the region were identified:

- United Technologies Corporation, a technology company specializing in aerospace and building systems (8)
- DJO Global, a medical devices and services company (7 job ads)
- AMN Healthcare, a healthcare staffing company (6)
- Cymer Incorporated, a high-tech light source development company (5)
- Illumina Incorporated, a genetics sequencing technology company (4)
- ViaSat, a satellite and digital communications company (4)
- General Atomics, a defense contractor specializing in nuclear physics (3)
- Northrop Gruman, a major federal defense contractor (3)
- Novartis, a multinational pharmaceuticals company (3)
- Scantibodies Laboratory Incorporated, a company specializing in biochemistry and diagnostics products (3)

See Appendix D for a complete list of regional employers.

Education requirements

Job titles for each occupation associated with international business were identified and analyzed for their educational requirements. The job titles with the most job postings for each occupation are shown in Table 5.

The logistician occupation had the most job postings. The occupation of shipping, receiving and traffic clerks had the second highest number of job postings.

For each of the occupations, the education requirements range from high school diploma up to graduate degree. The analysis indicates that some of the occupations—shipping & receiving clerk, logistics analyst, and logisticians—may only require a high school diploma for some positions.

However, analysis of the job posting data reveals that employers have a clear preference for bachelor's degrees and in some cases graduate degrees. For example, this is the case for market research analysts and marketing specialists, supply chain managers, cargo and freight agents, and logistics managers.

Table 5 - Education Requirements by Occupational Cluster*

Occupation	Job Titles Associated with This Occupation	% of Job Postings Requiring High School, AA, Bachelor's or Graduate Degrees	
Shipping, Receiving & Traffic Clerks	▪ Shipping and Receiving Clerk	High School	63%
	▪ Shipping Coordinator	Associate Degree	44%
	▪ Shipping Clerk	Bachelor's Degree	.07%
Logistics Analysts	▪ Logistics Analyst	High School	36%
	▪ Supply Chain Analyst	Associate Degree	13%
	▪ Senior Analyst, Commodity Management	Bachelor's Degree	63%
		Graduate Degree	38%
Market Research Analysts and Marketing Specialists	▪ Market Analyst	High School	6%
	▪ Marketing Specialist	Associate Degree	13%
	▪ Marketing Assistant	Bachelor's Degree	69%
Logisticians	▪ Logistics Manager	High School	24%
	▪ Logistics Analyst	Associate Degree	5%
	▪ Supply Chain Analyst	Bachelor's Degree	68%
	▪ Senior Analyst, Commodity Management	Graduate Degree	24%
Supply Chain Managers	▪ Supply Chain Manager	Bachelor's Degree	67%
	▪ Director of Operations and Supply Chain	Graduate Degree	33%
Customs Brokers	▪ Import Export Administrator	High School	22%
	▪ Ocean Export, Document Processing Agent	Bachelor's Degree	33%
	▪ Import Export Administrator IV	Graduate Degree	22%
Cargo & Freight Agents	▪ Import Export Specialist	Bachelor's Degree	67%
Logistics Managers	▪ Director, Global Logistics	Bachelor's Degree	100%
	▪ Director of Logistics	Graduate Degree	100%

*Educational requirements represent both preferred and minimum requirements requested by employers which may cause educational requirements in some categories to add up to more than 100%.

Employer Roundtable

During a roundtable hosted by the Deputy Sector Navigator for Global Trade and Logistics – San Diego and Imperial Region (DSN-GTL) and the Center for International Trade Development (CITD) at Southwestern College on April 8th, 2014, employers were asked about their difficulty finding qualified applicants. Sixty percent reported that it was “somewhat difficult,” while 13% said it was very difficult.

Nearly one-third responded that it was not difficult to fill positions. It should be noted that the employers who participated in the event primarily are engaged in importing and exporting, whole trade/transportation/logistics, and professional services.

Those that were experiencing difficulty hiring reported that a lack of communication skills was frequently an issue. Employers reported challenges in finding job applicants with sufficient skills in spoken and written English, including grammar and spelling, and in effective communication, such as being able to explain complex issues to colleagues and customers. Due to the region’s heavy trade with Mexico, employers said they highly value bilingual (English and Spanish) skills as well as the ability to interpret customs rules and regulations in both languages.

The skills of the greatest importance to employers were primarily soft skills: work ethic, initiative, critical thinking, teamwork, and writing. Words used to describe ideal candidates included attitude, dynamic, hard worker, innovative, motivated, ability to learn, reliable, and trustworthy. Employers also cited the importance of past experience in the international trade industry.

Education and Training

One of the study’s objectives was to assess how education providers in San Diego-Imperial Region are preparing students to enter the international trade workforce. This information can provide a picture of how postsecondary institutions are supplying students to meet employer demand for qualified employees.

To quantify the available education and training for occupations related to international trade in the region, an inventory of relevant programs from two- and four-year institutions was conducted. The Taxonomy of Programs (TOP) code for international business was used to identify programs.

International Business and International Logistics Curriculum

International business programs offered by colleges and universities tend to have a few core international business courses in addition to a general business coursework. Most programs also have a foreign language requirement.

Among the three colleges offer International Business Programs, Southwestern is the only college in the region that offers the International Logistics and Transportation Program with an Associate in Science Degree and Basic and Intermediate Certificates. Grossmont also offers the Custom Broker License Course.

Of the three community colleges, Grossmont College offers the most extensive international business offerings. Examples of courses include international marketing, international financial transactions, international transportation, and the cultural dimension in international business. (See Appendix E for a detailed list of college and university course offerings related to international business.)

The following is a summary of the international business and logistics programs offered by community colleges in the region.

- **Grossmont College.** Established around 1985, Grossmont’s international business program was designed to equip students with the practical skills and knowledge needed for sourcing, marketing, and distributing goods around the globe. The program is a good fit for students interested in global entrepreneurship. Through the program, student internships are offered

and cover various aspects of international business and global supply chain management. Courses are taught in the evenings by industry experts. A high percentage of students are international. The international business certificate can be completed in one year. In 1993, the college developed a Customs Broker License Exam Preparation Course. A licensed customs broker conducts a review of topics and students take practice tests.

- **Palomar College** offers a certificate and associate in science degree in international business. The program is designed to prepare individuals for a career in international business and/or management. Course requirements include financial accounting, marketing, business writing, international marketing, and essentials of import/export procedures.
- **Southwestern College** designed its international business program to prepare students to work in work in the fields of international business and trade. The program provides a practical approach to the study of international business and trade topics relevant in today’s global economy. Examples of skills include competency in computers and new technologies, information technology (IT) literacy, cultural awareness and sensitivity, and having a global perspective.
- **Southwestern College – Logistics and Transportation Program:** The certificate/A.S. degree program in Logistics and Transportation prepares students to work in industries affected by the distribution of goods, such as global, international, and cross border trade. The program provides students with a foundation of knowledge to enter the field of logistics and transportation and addresses the changing industry needs as a result of globalization. The program focuses on logistics, transportation, and trade issues along the San Diego-Tijuana border region; however, the knowledge and skills acquired throughout the curriculum will prepare students for positions related to the field in a variety of organizations which are involved with the logistics industry at a local, national, and international/global level. A work experience component allows students to gain practical skills and to work toward employment.

Education Program Completion

Data analysis for this report involved examining student completions at both community colleges and four-year colleges and universities.

Most completions in international business programs were at the bachelor’s degree level (Figure 9). In 2012, the year for the latest available data, there were a total of 210 completions, 195 of which were bachelor’s degrees. Only 4% of degrees conferred were associate degrees in international business. Similarly, only 3% of the total comprised certificates.

When compared with the number of job openings identified through Burning Glass, it appears that there may be an oversupply of students for occupations associated with international trade. A gap analysis shows there were 113 relevant postings identified, versus 195 bachelor’s degrees and 15 certificate or associate degree completions (210 total).

Figure 9 - Types of International Business Completions in 2012 (n= 210)

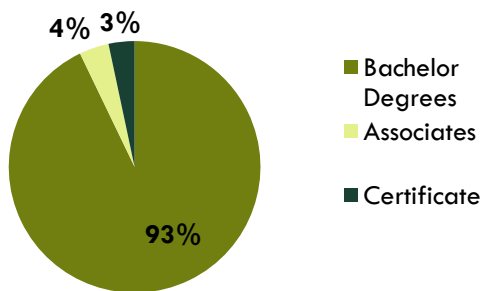
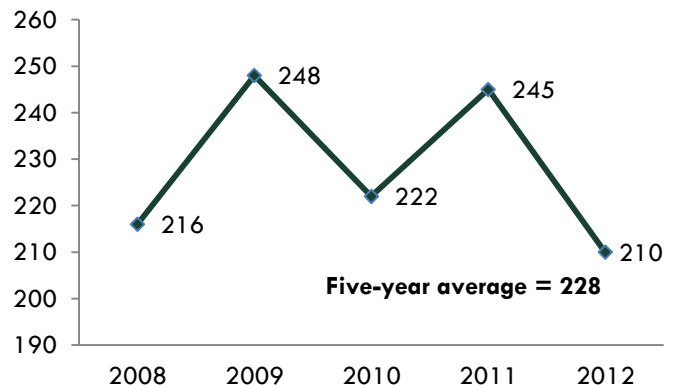


Figure 10 - Total International Business Completions, 2008-2012



Over a five-year period (2007-2012), there was an average of 228 completions (Figure 10). Each year, total completions fluctuated between about 210 and 250. The smallest number of completions issued occurred in 2012.

Table 6 illustrates the breakdown of completions at the three community colleges and four universities that offer programs in international business in the San Diego-Imperial region.

Table 6 - Colleges and Universities with International Business Programs (2012)

Institution	Certificates	Associate Degrees	Bachelor's Degrees	Total Completions
Grossmont College	4	3	-	7
Palomar College	2	1	-	3
Southwestern College	1	4	-	5
San Diego State University	-	-	146	146
San Diego State University Imperial Valley Campus	-	-	5	5
University of San Diego	-	-	31	31
Alliant International University	-	-	13	13
Total	7	8	195	210

While Table 6 may seem to indicate that few students are graduating from community colleges with associate degrees or certificates, the data may not be showing a complete picture. For example, a high number of students may be transferring to four-year institutions and as a result may not be receiving associate degrees. It may also be that once students acquire certain skills from these community college programs, they are immediately finding employment and are foregoing finishing their degrees or certificates. In addition, the data only reflect degrees specifically in international business. If academic advising is insufficient, students may complete the credits necessary to earn an international business degree, but may be opt for a general education degree not knowing that they have met the requirements. In addition, community colleges serve existing employees who are sent by their employers to take these classes with no goal of obtaining a certificate or degree.

To determine the capacity of community college programs in international business, further analysis was conducted. Even though degree and certificate completion appears to be low, Table 7 indicates that these programs are attracting and retaining students.

Of the three community colleges offering programs in international business, Grossmont College had the highest enrollment for the 2011-2012 academic year.

Retention rates reflect whether a college is succeeding at recruiting and keeping students from dropping out of specific program tracks. Palomar College had the highest fall and spring retention rates, followed by Grossmont College. Success rates were similar between Palomar College and Grossmont College for the fall and spring semesters.

Table 7 - Retention and Success Rates for Community College International Business Programs

Institution	Fall 2011 Enrollment	Fall 2011 Retention	Fall 2011 Success	Spring 2012 Enrollment	Spring 2012 Retention	Spring 2012 Success
Grossmont	121	95 (78%)	78 (64%)	66	60 (90%)	50 (75%)
Palomar*	55	49 (89%)	35(63%)	21	20 (95%)	16 (76%)
Southwestern	51	36 (70%)	29 (56%)	56	46 (82%)	37 (66%)
TOTAL	227	180 (79%)	142 (63%)	143	126 (88%)	103 (72%)

*includes online and traditional enrollment

Roundtable employer input

Employers who participated in the roundtable discussion on April 8th made several recommendations for international training programs. They suggested that education providers incorporate employer input into curriculum and focus on addressing future versus current needs. They also cited the importance of work-based learning opportunities.

They highlighted a number of important knowledge and skill areas to monitor:

- Free trade agreements and new regulations
- Manufacturing standards
- Negotiating skills
- Data analytics
- Changes in finance and banking
- Emerging market trends
- Research skills
- International and cultural awareness

Employers noted the importance of preparing students to enter the workforce. Those participating in the roundtable discussion agreed that apprenticeship models might be preferable to internships because apprenticeships focus on on-the-job training and applied skills. Colleges would need to be proactive in setting up apprenticeships and could partner with the Small Business Administration (SBA) and the San Diego Workforce Partnership. Students who participate in internships need clear job descriptions and tasks and projects that advance professional development.

Challenges regarding student preparation through internships were also discussed. It is important for students to understand that they are supposed to learn by helping companies solve problems, employers said. Colleges could do a better job of preparing students to enter a work environment and by instilling an understanding of the basic expectations that come with employment.

Conclusions & Recommendations

The overall growth in exports from San Diego indicates that there is a potentially untapped opportunity to continue to expand international trade operations in the region. The value of exports has increased each year since 2009, even during the recession. In 2012, exports totaled nearly \$20 billion dollars. Computer and electronic products, transportation equipment, machinery, chemicals, and plastics were the top commodities exported by the region.

The analysis of employer hiring preferences and job postings reveals that international trade is a niche market in San Diego and Imperial Counties Region. Meanwhile, the analysis of student enrollment, persistence, and college completion in the region indicates that the programs offered by universities and community colleges appear to be just the right size to meet employer needs. The comparison of job openings with higher education programs indicates that the region is likely on the right track and is supplying enough skilled workers to meet employer demand.

The analysis of job openings revealed that there are entry level jobs that are open and could be filled by graduates of community college programs. For example, the occupation of shipping, receiving, and traffic clerks had the most job postings and only requires a high school diploma or associate degree. The analysis of job postings indicates that community college training is needed to prepare students to enter a number of occupations that could be classified as entry-level jobs, such as clerks, logistics analysts, and logisticians.

It should be noted that the job posting data captured ads from larger employers, but contained few from small employers. This surprising finding suggests that the data analysis only captured a portion of

the job market. It is possible that some jobs are not being posted online and could be advertised by alternative means such as in print media or by word of mouth. In addition, job seekers could be finding those jobs through networking. It is possible that smaller businesses are advertising their openings differently from larger businesses which could be why the job posting data is skewed toward larger businesses.

It is common knowledge that small and mid-size businesses have an active role in San Diego's international trade operations, so the paucity of small business job postings must be attributed to other factors. One explanation could be that smaller businesses do not have a need for stand-alone positions focused on international trade, but rather look for professionals that combine the general knowledge of business, management, and marketing with international trade knowledge. This emphasizes the importance of the international business coursework for students choosing general business administration track.

According to the San Diego Metropolitan Export Initiative, small and medium-sized businesses "offer enormous untapped growth potential for San Diego. This cross-section of the business community needs an injection of global trade discourse into their business perspectives and strategies if San Diego is to achieve the desired growth in exports."¹⁰ It is recommended that further study be conducted into small businesses as they relate to international trade in the region.

Additional key research findings from this study:

- Totalling \$3.8 billion, computer and electronic products were the most valuable export in 2012 and has consistently remained San Diego's top export through 2012. Exports of this commodity have continued to increase each year.
- Education requirements: The majority of the job titles that had the most job postings require at least a bachelor's degree.
- Among the technical skills analyzed, the highest demand was for skills associated with logistics, followed by supply chain management, purchasing and procurement, and inventory management.
- Soft skills are considered highly important by employers and make the difference as to whether someone is hired and retained. The most prevalent soft skills were proficiency with Microsoft software, management and leadership skills, and organizational skills. Other skills cited by employers are communication, project management, and planning skills.

Recommendations:

- More research is needed on small and medium-sized businesses. One area that needs to be addressed is what job openings small businesses have and how they are being filled. A small business survey in the region could help answer these questions.
- There are a number of occupations that required two-year degrees. However, some employers only post requirements for high school degrees or lower requirements for entry level positions. Colleges should review which occupations they are training for.
- The analysis of job postings indicates that community college training is needed to prepare students to enter a number of occupations that could be classified as entry-level jobs, such as clerks, logistics analysts, and logisticians.
- The finding that 60% percent of employers who participated in the roundtable reported that it was "somewhat difficult" to find qualified employees may indicate that there are action-oriented changes that could make a difference to employers, a potential opportunity for community colleges to tailor programs to meet employer needs.

¹⁰ San Diego Metropolitan Export Initiative. "Market assessment: Fast Facts." May 2013.
<http://www.sandiegobusiness.org/sites/default/files/BROOKINGS-FASTFACTS-F-0513.pdf>

- Among the technical skills analyzed, the highest demand was for skills associated with logistics, followed by supply chain management, purchasing and procurement, and inventory management. Soft skills are considered highly important by employers and make the difference as to whether someone is hired and retained. The most prevalent soft skills were proficiency with Microsoft software, management and leadership skills, and organizational skills. Other skills cited by employers are communication, project management, and planning skills. Colleges should make sure they have those components covered so that students are gaining an understanding of international business as well effective communication and work ethics.
- Given the priority placed on communication skills by employers, it is recommended that existing programs incorporate training to address this deficiency in the workforce.
- During the roundtable discussion, employers urged educational programs to take into consideration the fact that many international trade firms are small and their employees must wear many hats. Applicants with cross-functional abilities are highly sought after. Candidates who are “generalists” and can think broadly about their skills and experiences provide value to employers.

In conclusion, there is a specific niche market for trained workers in the area of international trade trained workers. The field of international trade requires a specific skill set. Program data from community colleges shows few completers, but does not show a complete picture because enrollment is high. For example, many students may be transferring to bachelor degree programs. In addition, many colleges offer international business courses as part of a general business administration program, so students who are graduating with these degrees and are finding employment in international trade would not be captured by this study’s data analysis. It is important to look at enrollment and success to see how many students are passing through the colleges’ international business programs. It does not appear that the colleges are undersupplying the market.

References

California Legislative Information. "AB-690 State government: international relations."

http://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201320140AB690&search_keywords=%22local+agency%22

Milken Institute. "Strategies for expanding California's exports." September 2012.

http://www.milkeninstitute.org/pdf/Calif_export_promotion.pdf

Office of the United States Trade Representative. "U.S.-Mexico Trade Facts."

<http://www.ustr.gov/countries-regions/americas/mexico>

Otay Mesa Chamber of Commerce. "Border Crossing Information."

<http://www.otaymesa.org/category/member-resources/border-crossing-information>

San Diego Export Assistance Center. <http://export.gov/california/sandiego/index.asp>

San Diego Metropolitan Export Initiative. "Market assessment: Fast Facts." May 2013.

<http://www.sandiegobusiness.org/sites/default/files/BROOKINGS-FASTFACTS-F-0513.pdf>

San Diego Metropolitan Export Initiative. "Global San Diego Export Plan." May 2013.

<http://www.sandiegobusiness.org/sites/default/files/Export%20plan%20FINAL.pdf>

Unified Ports of San Diego. "Ports bring home the goods."

<http://www.portofsandiego.org/portals/working-waterfront.html>

Appendix A: How to use this report

This report is designed to provide current labor market information to:

- Understand the factors impacting international trade occupations and their effect on the workforce in the San Diego and Imperial Counties region, and;
- Provide information on international trade-related education and training programs in the region

The information in this report has been validated by industry professionals and community colleges and includes a listing of programs being offered by colleges to address workforce needs. In some instances, the labor market information and industry validation will suggest that colleges might not want to begin or add programs, thereby avoiding needless replication and low enrollments.

The Centers of Excellence for Labor Market Research (COE), in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Technical Education (CTE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

More information about the Centers of Excellence is available at www.coeccc.net.

Important Disclaimer

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. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon components or recommendations contained in this study.

Explanation of Data Sources

Industry Data

In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

Real Time Labor Market Data

Burning Glass Labor Insight data services provides data collected from numerous online job posting websites, job boards, and employer boards to present real-time information on job postings by region. Data collected and presented here may not be free of duplicate job postings and is not a proven source for estimating total employment, projecting demand, or education and training preferences.

Education Program Data

Community college education programs were extracted from the California Community Colleges Chancellor's Office Inventory of Approved Programs. This inventory lists credit degrees and certificates offered by California community colleges which are approved by the Chancellors office. California Community Colleges approved programs are identified by the Taxonomy of Programs (TOP), a system of nomenclature for designating programs in the California Community Colleges system. The complete TOP manual can be viewed on the Chancellor's office website at

http://www.cccco.edu/Portals/4/TopTax6_rev0909.pdf

Appendix B: Exports to Mexico

Table B1- Exports to Mexico 2012

Commodity	Export Value (In Millions)
Plastics & Rubber Products	3,518
Chemicals	2,187
Machinery, Except Electrical	1,934
Transportation Equipment	1,330
Computer and Electronic Equipment	1,242
Fabricated Metal Products, Nesoi	1,233
Electrical Equipment, Appliances & Components	1,116
Food & Kindred Products	1,069
Primary Metal Mfg	971
Miscellaneous Manufactured Commodities	801
Paper	746
Agricultural Products	476
Oil & Gas	427
Apparel & Accessories	385
Textiles & Fabrics	284
Wood Products	254
Nonmetallic Mineral Products	252
Printed Matter And Related Products, Nesoi	131
Textile Mill Products	103
Beverages & Tobacco Products	83
Leather & Allied Products	77
Petroleum & Coal Products	76
Furniture & Fixtures	75
Special Classification Provisions, Nesoi	53
Used Or Second-hand Merchandise	29
Waste And Scrap	27
Minerals & Ores	25
Fish, Fresh/chilled/frozen & Other Marine Products	18
Livestock & Livestock Products	5
Forestry Products, Nesoi	3
Newspapers, Books & Other Published Matter, Nesoi	2

Appendix C: Sample Job Postings in San Diego/Imperial Region

Reverse Logistics Manager

ViaSat - Carlsbad, California (Greater San Diego Area)

Job Description

As the Reverse Logistics Manager, you will be responsible for planning and implementing all aspects of ViaSat reverse logistics solutions domestically and internationally. Included in your responsibilities will be the management of ViaSat global spare parts logistics program and high volume product recovery programs.

You will utilize your experience and knowledge of practices, and procedures within transportation/logistics, import/export regulations, and field spares. You will have the opportunity to create and review procedures for distribution and inventory management maximizing customer satisfaction and minimizing cost. Providing direction to logistics analysts you will make the most of your team spirit.

Qualifications:

- 3+ years Managing Third Party Logistics (3PL) and freight forwarders
- 3+ years Global spare part logistics program management
- Provide recommendations on import/export/customs clearance processes to ViaSat program teams
- Report ongoing metrics on cost, performance, and internal/external customer satisfaction
- Identify cost reduction opportunities across reverse logistics distribution channels
- Manage customer service level agreements
- Participate in corporate wide logistics strategy development

Import/Export Administrator (Temporary)

Non-Exempt

ViaSat is looking for a Temporary Import/Export Administrator to provide part-time support to the team.

This is an opportunity to process of important documentation for an Import/Export department. The Administrator will be empowered to update transaction reports and product matrices as well as research export information and notify import brokers to declare assists to U.S. Customs. You will assist in preparing export classification submittals to the Department of Commerce. Using your keen attention to detail, you will help review import entry files, check the US tariff codes, consolidate foreign national master logs, help file and archive key data, and provide administrative assistance with specific tasks and projects.

- Proficient in Microsoft Word and Excel
- Outstanding communication skills
- Ability to interact effectively with a diverse group of individuals
- High School Diploma or GED
- US government position. US citizenship required.

Shipping and Receiving Clerk

The Global Logistics Team is looking for a Shipping Clerk to join their team and support shipping activities in our Chula Vista, CA facility. The ideal candidate will be comfortable working in a warehouse environment, having a lot of interaction with customers and other parties, and using technology to arrange transportation and provide general support. Responsibilities include (but are not limited to):

- Coordinating and arranging shipping activities
- Preparing shipping documents (Domestic and International)
- Submitting AES (Automated Export System)
- Providing tracing and tracking
- Arranging/booking transportation
- Maintaining training for DOT, Import, Export, CTPAT and HAZMAT

Requires a High School Diploma or equivalent, plus additional training and 5+ years of related experience OR Associate Degree, Technical/ School Certificate or Diploma, Skilled Trades Apprenticeship, or 2 years of post-high school training and 3+ years of related experience.

Shipping and Receiving Clerk

Work Locations: Chula Vista, CA

UTC Aerospace Systems is one of the world's largest suppliers of technologically advanced aerospace and defense products. We design, manufacture and service systems and components and provide integrated solutions for commercial, regional, business and military aircraft, helicopters and other platforms. We are also a major supplier to international space programs.

Responsibilities

The Global Logistics Team is looking for a Shipping Clerk to join their team and support shipping activities in our Chula Vista, CA facility. The ideal candidate will be comfortable working in a warehouse environment, having a lot of interaction with customers and other parties, and using technology to arrange transportation and provide general support. Responsibilities include (but are not limited to):

- Coordinating and arranging shipping activities
- Preparing shipping documents (Domestic and International)
- Submitting AES (Automated Export System)
- Providing tracing and tracking
- Arranging/booking transportation
- Maintaining training for DOT, Import, Export, CTPAT and HAZMAT

Qualifications

Requires a High School Diploma or equivalent, plus additional training and 5+ years of related experience OR Associate Degree, Technical/ School Certificate or Diploma, Skilled Trades Apprenticeship, or 2 years of post-high school training and 3+ years of related experience.

Appendix D: Employers with the Most Job Openings

**Table D1- Complete list of employers with job openings.
Source: Burning Glass Technologies**

Employer	Job Postings
United Technologies Corporation/ UTC Aerospace Systems	8
Djo Global	7
Amn Healthcare	6
Cymer Incorporated	5
Illumina Incorporated	4
ViaSat	4
General Atomics	3
Northrop Grumman	3
Novartis	3
Scantibodies Laboratory Incorporated	3
U.S. Customs And Border Protection	3
Wells Fargo	3
BAE Systems	2
Kuehne Nagel	2
Maxwell Technologies	2
Panalpina	2
Samsung America, Inc.	2
Senomyx Incorporated	2
Acon Laboratories Incorporated	1
Active Network Incorporated	1
Brightstar Corporation	1
Cadence Pharmaceuticals Inc	1
Electronic Data Systems	1
Hamilton Sundstrand	1
Kavlico Corporation	1
Leica Microsystems	1
Management Business Solutions	1
On Board Engineering Corporation	1
Pacira Pharmaceuticals	1
Qualcomm	1
Reel Picture Productions	1
Serco	1
Stone Brewing Company	1
Teledyne Technologies	1
Textron	1
The Boeing Company	1
Thermo Fisher Scientific Inc	1

Appendix E: International Business Programs Offered by Colleges & Universities

Grossmost College – International Business Program

Degrees Offered: Associate Degree, Certificate of Achievement

Required Courses: Bus 120: Financial Accounting Bus 250: Intro to International Business Bus 251: Import/Export Procedures Bus 252: Global Sourcing, Buying and Manufacturing Bus 253: International Marketing – Expanding Exports Bus 256: International Financial Transactions Bus 257: International Transportation Bus 258: The Cultural Dimension in International Business	Elective Courses: Bus 121: Managerial Accounting Bus 140: Entrepreneurship – Developing a Business Plan Bus 146: Marketing Bus 265A-B-C-D: Internship in International Business Bus 266: Internship in International Business Bus 267: Internship in International Business
---	--

Southwestern College – International Business Program

Degrees Offered: Associate Degree, Certificate of Achievement, Certificate of Proficiency

Required Courses: Foreign Language (5 units at intermediate level required for Associate Degree) Bus 134: eBusiness I: Principles of Electronic Commerce Bus 142: Business Ethics – Corporate and Personal Bus 143: eStrategic Business Planning Bus 290 - 293: Work Experience in Business I - IV LEGL 256: International Law for Business LDR 152: Business Innovation Bus 122: Principles of Importing and Exporting Bus 126: Introduction to Business Logistic Management Bus: 140 Business Law/The Legal Environment of Business Bus 177: Principles of International Business	Elective Courses: ACCT 12: Computerized Accounting ACCT 102: Principles of Accounting II – Managerial ACCT 7 Basic Business Bookkeeping ACCT 101: Principles of Accounting I Bus 211: Communication in Business and Industry Bus 212: Business Communication CL 120: Computer Literacy CIS 101: Introduction to Computers and Information Processing
---	---

Palomar College – International Business Program

Degrees Offered: Associate Degree, Certificate of Achievement

Required Courses: ACCT 104: Accounting Spreadsheet Concepts ACCT 201: Financial Accounting Bus 100: Introduction to Business Bus 110: Business Mathematics Bus 155: Marketing Bus 205: Business Communication IBus 100: Introduction to International Business and Management IBus 105: International Marketing IBus 110: The Cultural Environment of International Business IBus 115: International Banking and Finance IBus 120 Essentials of Import/Export Procedures CE 100: Cooperative Education	Elective Courses: IBus 197: International Business Topics
---	---

Grossmont College – Customs Broker License Course

Degrees Offered: Customs Broker License Exam - Preparation Course

Required Courses:

Day 1 HTS: GRIs + General Notes
Regulations Section: 111

Day 2 HTS: Classification
Regulations Section: 152

Day 3 Days 3-7 will be a combination of the following:
HTS: Classification
Regulations Sections: 141, 24, 142, 191, 113, 10, 181, 132, 159, 171, 134, 102, 162, 143, 144, 18, 19, 174, 163, 12, 146, 133
High Level overview of balance of Customs Regulations
Specified Customs Directives
CATAIR
Practice Exams

Southwestern College Higher Education Center at Otay Mesa – International Logistics and Transportation Program

Degrees Offered: Associate Degree, Basic Certificate, Intermediate Certificate

Required Courses:

Associate Degree in Science:

ACCT 7: Basic Business Bookkeeping

ACCT 101: Principles of Accounting I

BUS 142: Business Ethics—Corporate and Personal

BUS 177: Principles of International Business

CIS 133: Advanced Microcomputer Spreadsheets Software 1

GEOG 145: Introduction to Mapping and Geographic Information Science (GIS) 3

LEGL 256: International Law for Business

BUS 290–293: Work Experience in Business I-IV

*Plus the courses required for the Logistics and Transportation—Basic certificate

*To earn an associate degree, additional general education graduation required must also be completed

Certificate of Achievement – Basic

BUS 122: Principles of Importing and Exporting

BUS 126: Introduction to Business Logistics Management

BUS 151: Principles of Operations Management

BUS 173: Transportation Management

BUS 183: Business Mathematics

CIS 101: Introduction to Computers and Information Processing

BUS 211: Communication in Business and Industry

OR

BUS 212: Business Communication

Certificate of Achievement Intermediate: *Same as Associate Degree in Science*



C·O·E

CENTERS OF EXCELLENCE
Inform Connect Advance

www.coecc.net

California Community Colleges

Workforce and Economic Development