

Entrepreneurship

Inland Empire/Desert Region (Riverside-San Bernardino-Ontario Metropolitan Statistical Area)

Summary

- New job employment for the entrepreneurship occupational group is expected to **increase by 7% between 2017 and 2022** in the Inland Empire/Desert region. A combined **51,203 employment and self-employment job openings** will be available over the five-year projection period in this occupational group.
- The median-level wage for each occupation in the entrepreneurship occupational group is **above the MIT Living Wage estimate of \$12.30 per hour** for a single adult living in the Inland Empire/Desert region.
- **There appears to be an opportunity for program growth** based on the average annual number of program completions for the entrepreneurial programs in the region (**924 average annual community college credentials, 15 other institutional credentials, 939 total**), and the annual openings for entrepreneurship occupations in the region (**10,241 average annual openings**).

Introduction

Entrepreneurs often create their job opportunities, meaning that they generate their income through self-employment. This report looks at occupations trained by business and entrepreneurial programs at the community colleges and analyzes overall employment by two categories of workers:

Employees: Traditional wage and salary employees.

Self-Employed: Workers that report self-employment as their primary form of income.

The self-employed represent about 9.5% of all workers in the Inland Empire/Region, or 158,154 out of 1,661,717 total jobs. Most of these workers are concentrated in the construction and other services (mostly small businesses) industries. Not surprisingly, no self-employment opportunities are available in government or the management of companies and enterprises industries. Employed and self-employed worker categories are combined to provide the most comprehensive view of all job activity in a region. However, splitting employment into the two categories for this report provides a unique look at entrepreneurial activity in the region.



Completion of the business and entrepreneurial programs (TOP 0505.00, 0506.00, 0506.30, 0506.40, 0506.50 & 0508.00) provides students with the necessary skills to develop and operate a business. The central portion of this report looks only at the job opportunities that are trained in the region's business and entrepreneurial programs. The occupations included in the entrepreneurship occupational group are the following:

- Administrative Services Managers
- Business Operations Specialists, All Other
- Buyers and Purchasing Agents
- Cost Estimators
- First-Line Supervisors of Office and Administrative Support Workers
- First-Line Supervisors of Retail Sales Workers
- Food Service Managers
- General and Operations Managers
- Industrial Production Managers
- Lodging Managers
- Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
- Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products

Job Opportunities

In 2017, there were 93,124 jobs in the entrepreneurship occupational group in the Inland Empire/Desert region. However, only 9% or 8,175 of these jobs are classified as self-employed. This occupational group is projecting to increase employment by 7% in the region through 2022. Employers will need to hire 51,203 more workers (or 4,167 for self-employed) during the same timeframe to backfill jobs that workers are permanently vacating (includes retirements). Tables 1 & 2 in the Appendix displays job growth, wages, education, training, and work experience required for this occupational group.

Exhibit 1: Five-year projections for the entrepreneurship occupational group, 2017-2022

Type of Employment	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Employees only	84,949	8%	47,036	9,407	22%
Self-Employed only	8,175	(3%)	4,167	833	37%
All (Employees & Self-Employed)	93,124	7%	51,203	10,241	23%

Source: EMSI 2018.4

Earnings

The entry-level for each of the occupations in the entrepreneurship occupational group is above the MIT Living Wage estimate of \$12.30 per hour for a single adult living in the Inland Empire/Desert region, except for food service managers. Annually, the self-employed entrepreneurship group earns \$22,700 less than the traditionally employed entrepreneurship group. Detailed information on the MIT Living Wage Calculator, including additional wage requirements for adults with dependent children, is available on their website:

<http://livingwage.mit.edu/metros/40140>.

Exhibit 2: Earnings for the entrepreneurship occupational group

Entrepreneurship Occupations	All (Employees + Self-Employed)		Self-Employed Only	
	Entry to Experienced Hourly Earnings Range*	Average Annual Earnings	Entry to Experienced Hourly Earnings Range*	Average Annual Earnings
General Operations Managers	\$31.36 to \$67.16	\$117,300	\$22.24 to \$23.72	\$47,800
Administrative Services Managers	\$34.73 to \$60.39	\$104,300	\$28.00 to \$28.32	\$58,600
Industrial Production Managers	\$34.73 to \$60.85	\$102,800	\$27.71 to \$28.08	\$58,100
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$25.75 to \$46.39	\$76,700	\$28.57 to \$35.40	\$65,100
Business Operations Specialists, All Other	\$22.40 to \$40.00	\$67,500	\$40.40 to \$44.18	\$87,200
Cost Estimators	\$20.36 to \$37.35	\$64,000	\$17.40 to \$19.80	\$38,400

Entrepreneurship Occupations	All (Employees + Self-Employed)		Self-Employed Only	
	Entry to Experienced Hourly Earnings Range*	Average Annual Earnings	Entry to Experienced Hourly Earnings Range*	Average Annual Earnings
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$19.11 to \$38.41	\$65,900	\$21.08 to \$26.13	\$48,100
First-Line Supervisors of Office and Administrative Support Workers	\$20.85 to \$31.89	\$57,200	\$24.06 to \$26.55	\$52,600
Buyers and Purchasing Agents	\$20.31 to \$34.33	\$59,600	\$23.78 to \$24.61	\$50,200
Lodging Managers	\$15.66 to \$47.01	\$66,300	\$13.19 to \$18.14	\$32,000
Food Service Managers	\$11.13 to \$23.94	\$39,700	\$9.55 to \$11.02	\$21,200
First-Line Supervisors of Retail Sales Workers	\$13.07 to \$21.38	\$38,500	\$12.15 to \$14.79	\$27,700

Source: EMSI 2018.4

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Self-Employment for the Entrepreneurship Occupational Group

The occupations included in the entrepreneurship occupational group possess the skills required to create and operate a business. Despite this, the majority of individuals with these skills are employed in a traditional employee-employer relationship. Exhibit 3 displays total job count, self-employment job count, and percentage of self-employed jobs for the entrepreneurship occupational group in the Inland Empire/Desert Region.

Exhibit 3: Portion of entrepreneurship occupational group classified as self-employed

Occupation	Total 2017 Jobs	Total Self- Employed	% Self- Employed
1. Food Service Managers	4,443	1,438	32%
2. First-Line Supervisors of Retail Sales Workers	16,346	4,282	26%
3. Lodging Managers	468	106	23%
4. Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	1,715	141	8%
5. Buyers and Purchasing Agents	4,158	335	8%

Occupation	Total 2017 Jobs	Total Self-Employed	% Self-Employed
6. Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	15,578	977	6%
7. Industrial Production Managers	1,440	75	5%
8. Cost Estimators	2,928	104	4%
9. Business Operations Specialists, All Other	8,371	161	2%
10. First-Line Supervisors of Office and Administrative Support Workers	14,933	275	2%
11. General and Operations Managers	19,666	260	1%
12. Administrative Services Managers	3,076	21	1%
Total	93,124	8,175	9%

Source: EMSI 2018.4

Job Posting Data (Real-Time Labor Market Information)

On average, local employers fill online job postings for the entrepreneurship occupational group within 38 days. When compared to the national average, local employers find qualified candidates one day faster, indicating that the entrepreneurship occupational group positions are filled within a similar timeframe in the Inland Empire/Desert Region. Exhibit 4 shows the number of job ads posted during the last 12 months for each occupation along with the regional and national average time to fill.

Exhibit 4: Job ads and time to fill for entrepreneurship occupations, Jan 2018 - Dec 2018

Entrepreneurship Occupations	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	8,652	38	39
First-Line Supervisors of Retail Sales Workers	6,554	40	41
Food Service Managers	2,806	37	41

General and Operations Managers	2,542	38	36
First-Line Supervisors of Office and Administrative Support Workers	1,338	33	36
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	755	38	39
Buyers and Purchasing Agents	717	37	35
Industrial Production Managers	641	42	41
Cost Estimators	515	47	41
Administrative Services Managers	433	31	34
Business Operations Specialists, All Other	386	45	40
Lodging Managers	215	31	35
Total	25,536	-	-

Source: Burning Glass – Labor Insights

Employers

Exhibit 5 displays local employers posting the most job ads for entrepreneurship occupations during the last 12 months in the Inland Empire/Desert region.

Exhibit 5: Employers most frequently posting job ads for the entrepreneurship occupations during the last 12 months, Jan 2018 – Dec 2018

Occupation	Top Employers
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (n=7,375)	<ul style="list-style-type: none"> • Sentext Solutions • Sears
First-Line Supervisors of Retail Sales Workers (n=6,206)	<ul style="list-style-type: none"> • Superior Grocers • PetSmart
Food Service Managers (n=2,585)	<ul style="list-style-type: none"> • Domino's Pizza • Pizza Hut
General and Operations Managers (n=2,276)	<ul style="list-style-type: none"> • Dollar Tree • XPO Logistics

Occupation	Top Employers
First-Line Supervisors of Office and Administrative Support Workers (<i>n</i> =1,041)	<ul style="list-style-type: none"> • H&R Block • Loma Link University Health
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (<i>n</i> =604)	<ul style="list-style-type: none"> • J. C. Penney • Sunrun
Buyers and Purchasing Agents (<i>n</i> =552)	<ul style="list-style-type: none"> • ESRI • Niagara Bottling
Industrial Production Managers (<i>n</i> =484)	<ul style="list-style-type: none"> • Mars Inc. • Schneider Electric
Cost Estimators (<i>n</i> =332)	<ul style="list-style-type: none"> • Boudreau Pipeline • Earth Tek Engineering
Administrative Services Managers (<i>n</i> =384)	<ul style="list-style-type: none"> • University of California, Riverside • California State University San Bernardino
Business Operations Specialists, All Other (<i>n</i> =314)	<ul style="list-style-type: none"> • Anthem Blue Cross • University of California, Riverside
Lodging Managers (<i>n</i> =200)	<ul style="list-style-type: none"> • Hilton Hotels & Resorts • G6 Hospitality

Source: Burning Glass – Labor Insights

In-Demand Skills

Exhibit 6 lists a sample of in-demand specialized, employability, and software and programming skills that employers are seeking when looking for workers to fill entrepreneurship positions. Specialized skills are occupation-specific skills employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.” The skills reported in job postings may be utilized as a helpful guide for curriculum development.

Exhibit 6: Sample of in-demand skills from employer job ads for entrepreneurship occupations, January 2018 – December 2018

Occupation	Specialized skills	Employability skills	Software and Programming skills
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (n=7,693)	<ul style="list-style-type: none"> Customer Service Outside Sales Customer Contact 	<ul style="list-style-type: none"> Communication Skills Building Effective Relationships Organizational Skills 	<ul style="list-style-type: none"> Microsoft Office Salesforce
First-Line Supervisors of Retail Sales Workers (n=5,731)	<ul style="list-style-type: none"> Retail Industry Knowledge Store Management Merchandising 	<ul style="list-style-type: none"> Communication Skills Physical Abilities Organizational Skills 	<ul style="list-style-type: none"> Microsoft Office SAP
Food Service Managers (n=2,232)	<ul style="list-style-type: none"> Scheduling Cost Control Food Safety 	<ul style="list-style-type: none"> Communication Skills Physical Abilities Teamwork/ Collaboration 	<ul style="list-style-type: none"> Microsoft Office Lotus Domino
General and Operations Managers (n=2,308)	<ul style="list-style-type: none"> Budgeting Scheduling Staff Management 	<ul style="list-style-type: none"> Communication Skills Planning Organizational Skills 	<ul style="list-style-type: none"> Microsoft Office
First-Line Supervisors of Office and Administrative Support Workers (n=1,215)	<ul style="list-style-type: none"> Customer Service Scheduling Budgeting 	<ul style="list-style-type: none"> Communication Skills Organizational Skills Problem Solving 	<ul style="list-style-type: none"> Microsoft Office QuickBooks
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (n=698)	<ul style="list-style-type: none"> Customer Service Business Development Prospective Clients 	<ul style="list-style-type: none"> Communication Skills Building Effective Relationships Problem Solving 	<ul style="list-style-type: none"> Microsoft Office Salesforce
Buyers and Purchasing Agents (n=674)	<ul style="list-style-type: none"> Procurement Scheduling Enterprise Resource Planning (ERP) 	<ul style="list-style-type: none"> Communication Skills Organizational Skills Detail-Oriented 	<ul style="list-style-type: none"> Microsoft Office SAP

Occupation	Specialized skills	Employability skills	Software and Programming skills
Industrial Production Managers (n=615)	<ul style="list-style-type: none"> Quality Assurance and Control Scheduling Budgeting 	<ul style="list-style-type: none"> Communication Skills Planning Problem Solving 	<ul style="list-style-type: none"> Microsoft Office
Cost Estimators (n=463)	<ul style="list-style-type: none"> Project Management Budgeting Scheduling 	<ul style="list-style-type: none"> Communication Skills Computer Literacy Detail-Oriented 	<ul style="list-style-type: none"> Microsoft Office AutoCAD
Administrative Services Managers (n=385)	<ul style="list-style-type: none"> Budgeting Scheduling Accounting 	<ul style="list-style-type: none"> Communication Skills Planning Teamwork/ Collaboration 	<ul style="list-style-type: none"> Microsoft Office
Business Operations Specialists, All Other (n=340)	<ul style="list-style-type: none"> E-Commerce Customer Service Project Management 	<ul style="list-style-type: none"> Communication Skills Planning Teamwork/ Collaboration 	<ul style="list-style-type: none"> Microsoft Office Adobe Photoshop
Lodging Managers (n=195)	<ul style="list-style-type: none"> Budgeting Guest Services Scheduling 	<ul style="list-style-type: none"> Communication Skills Planning Teamwork/ Collaboration 	<ul style="list-style-type: none"> Microsoft Office

Source: Burning Glass – Labor Insights

Educational Requirements

Exhibit 7 displays the entry-level education typically required to enter each occupation according to the Bureau of Labor Statistics, educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census, and the minimum advertised education requirement requested by employers in online job ads.

Exhibit 7: Educational attainment and online job ads with minimum advertised education requirements for the entrepreneurship occupations, January 2018 – December 2018

Occupation	Work Experience Required	Typical Entry-Level Education Requirement	Two-Year Postsecondary Level of Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
				Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	None	High school diploma or equivalent	31%	3,860	48%	5%	47%
First-Line Supervisors of Retail Sales Workers	Less than 5 years	High school diploma or equivalent	39%	3,354	68%	5%	27%
Food Service Managers	Less than 5 years	High school diploma or equivalent	37%	1,176	81%	6%	13%
General and Operations Managers	5 years or more	Bachelor's degree	35%	1,753	36%	4%	60%
First-Line Supervisors of Office and Administrative Support Workers	Less than 5 years	High school diploma or equivalent	40%	768	46%	6%	48%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	None	Bachelor's degree	31%	293	34%	2%	64%
Buyers and Purchasing Agents	None	Bachelor's degree	25%	478	32%	4%	64%

Occupation	Work Experience Required	Typical Entry-Level Education Requirement	Two-Year Postsecondary Level of Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
				Number of Job Postings (n=)	High school diploma or vocational training	Associate degree	Bachelor's degree or higher
Industrial Production Managers	5 years or more	Bachelor's degree	30%	457	16%	6%	78%
Cost Estimators	None	Bachelor's degree	39%	246	30%	3%	67%
Administrative Services Managers	Less than 5 years	Bachelor's degree	38%	302	28%	9%	63%
Business Operations Specialists, All Other	None	Bachelor's degree	24%	199	23%	5%	72%
Lodging Managers	Less than 5 years	High school diploma or equivalent	37%	116	41%	8%	51%

Source: EMSI 2018.4, Burning Glass – Labor Insights

*Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework

Top Self-Employed Occupations in Inland Empire/Desert Region

Although this report has primarily focused on traditional business occupations, there are other occupations in the region with a high concentration of self-employed individuals. While these occupations may not traditionally be the focus of the business and entrepreneurial programs, it is valuable to know which large occupations (1,000+ jobs in 2017 or more) have the highest concentration of self-employed individuals, which are displayed in Exhibit 8. This exhibit illuminates the occupations in which entrepreneurship is most common in the region.

Exhibit 8: Occupations with the most significant portion of self-employed individuals as a percentage of total employment in the Inland Empire/Desert Region (with at least 1,000 jobs in 2017)

Occupation	% Self-Employed	Total Self-Employed	Total 2017 Jobs
1. Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	97%	1,141	1,180
2. Real Estate Brokers	81%	1,068	1,318
3. Writers and Authors	79%	1,097	1,389
4. Hairdressers, Hairstylists, and Cosmetologists	78%	7,211	9,287
5. Real Estate Sales Agents	77%	3,526	4,555
6. Photographers	75%	1,092	1,466
7. Managers, All Other	67%	6,214	9,278
8. First-Line Supervisors of Non-Retail Sales Workers	52%	2,128	4,092
9. Self-Enrichment Education Teachers	50%	1,328	2,676

Source: EMSI 2018.4

Student Completions

Exhibits 9-14 show the annual average regional community college credentials (associate degrees and certificates) conferred during the three academic years between 2014 and 2017, with the relevant TOP code and the titles used at each college, sourced from the Chancellor’s Office Curriculum Inventory (COCI). Credentials granted from other educational institutions from 2013 to 2016 are displayed in Exhibit 15, along with the relevant CIP code. Please note, a credential is not equivalent to a single person in search of a job opening since a student may earn more than one credential, such as an associate degree in addition to a certificate. Community College student outcome information is from the CTE LaunchBoard based on the selected TOP code and region.

Exhibit 9: Annual average community college student completions for business administration programs

0505.00 Business Administration	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Barstow – Business Administration	306	
Associate Degree for Transfer		9
Chaffey - General Business/Business Administration	771	
Associate Degree		28
Certificate 30 to < 60 semester units		13
Certificate 18 to < 30 semester units		1*
Associate Degree for Transfer		166
Copper Mountain – Business Administration	33	
Associate Degree		14
Associate Degree for Transfer		15
Crafton Hills – Business Administration		
Associate Degree for Transfer		51
Desert – Business Administration		
Associate Degree		5
Associate Degree for Transfer		102
Moreno Valley – Business Administration	277	
Associate Degree for Transfer		13
Mt. San Jacinto – Business Administration	331	
Associate Degree		55
Certificate 30 to < 60 semester units		7
Associate Degree for Transfer		83

0505.00 Business Administration	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Norco College – Business Administration	542	
Associate Degree for Transfer		24
Palo Verde – Business Administration/Business Management	98	
Associate Degree for Transfer		1
Riverside – Business Administration	978	
Associate Degree for Transfer		17
San Bernardino – Business Administration		
Associate Degree		33
Certificate 18 to < 30 semester units		2
Associate Degree for Transfer		67
Victor Valley	110	
Total Community College Headcount (2016-17)	3,384	
Total Annual Average Community College Credentials (2014-17)		704

Source: LaunchBoard, IPEDS, COCI

*Chaffey issued one 18 to < 30 semester unit certificate in 2015-16

0505.00 Business Administration program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of students who completed 12+ CTE units in one year: 781 (CA: 88) [2016-17]
- Number of students who transferred to a 4-year institution: 499 (CA: 81)
- Employed in the fourth fiscal quarter after exit: 60% (CA: 66%)
- Median annual earnings after exit: \$24,345 (CA: \$26,447)
- Median change in earnings: 42% (CA: 44%)
- The proportion of students who attained a living wage: 45% (CA: 47%)
- Job closely related to field of study: 70% (CA: 83%) [2014-15]
- Economically disadvantaged students: 81% (CA: 68%) [2016-17]

Exhibit 10: Annual average community college student completions for business management programs

0506.00 Business Management	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Barstow - Management	157	
Associate Degree		17
Certificate 18 to < 30 semester units		2
Chaffey - Management	363	
Associate Degree		11
Certificate 30 to < 60 semester units		2
Certificate 18 to < 30 semester units		8
Certificate 6 to < 18 semester units		1
Copper Mountain	14	
Crafton Hills – Business Administration/Business Management	207	
Associate Degree		6
Certificate 30 to < 60 semester units		1
Moreno Valley – Business Administration: Management	86	
Associate Degree		4
Certificate 30 to < 60 semester units		3
Mt. San Jacinto – Management/Supervision	301	
Associate Degree		6
Certificate 30 to < 60 semester units		6
Norco College –Business Administration: Management	46	
Associate Degree		8
Certificate 30 to < 60 semester units		10
Palo Verde	698	
Associate Degree		11
Certificate 30 to < 60 semester units		5
Certificate 6 to < 18 semester units		39
Riverside – Business Administration: Human Resources/Business Administration: Management	237	
Associate Degree		19
Certificate 30 to < 60 semester units		20
San Bernardino	912	
Victor Valley - Management	783	
Certificate 30 to < 60 semester units		5
Total Community College Headcount (2016-17)	3,785	
Total Annual Average Community College Credentials (2014-17)		183

Source: LaunchBoard, IPEDS, COCI



0506.00 Business Management program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of students who completed 12+ CTE units in one year: 675 (CA: 63) [2016-17]
- Number of students who transferred to a 4-year institution: 293 (CA: 32)
- Employed in the fourth fiscal quarter after exit: 63% (CA: 73%)
- Median annual earnings after exit: \$25,111 (CA: \$32,148)
- Median change in earnings: 40% (CA: 40%)
- The proportion of students who attained a living wage: 53% (CA: 63%)
- Job closely related to field of study: 70% (CA: 83%) [2014-15]
- Economically disadvantaged students: 81% (CA: 73%) [2016-17]

Exhibit 11: Annual average community college student completions for management development and supervision programs

0506.30 Management Development and Supervision	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – Management: Supervision	188	
Associate Degree		1
Certificate 18 to < 30 semester units		1
Certificate 6 to < 18 semester units		*1
Desert – Human Resources Generalist		
Associate Degree		1
Certificate 30 to < 60 semester units		1
Certificate 18 to < 30 semester units		3
Moreno Valley	96	
Norco	243	
Riverside	327	
Victor Valley	23	
Total Community College Headcount (2016-17)	831	
Total Annual Average Community College Credentials (2014-17)		7

Source: LaunchBoard, IPEDS, COCI

*Chaffey issued one 6 to <18 semester unit certificate in 2014-15

0506.30 Management Development and Supervision program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of students who completed 12+ CTE units in one year: 191 (CA: 40) [2016-17]
- Number of students who transferred to a 4-year institution: 63 (CA: 15)
- Employed in the fourth fiscal quarter after exit: 83% (CA: 82%)
- Median annual earnings after exit: \$29,096 (CA: \$41,601)
- Median change in earnings: 63% (CA: 27%)
- The proportion of students who attained a living wage: 63% (CA: 71%)
- Job closely related to the field of study: N/A (CA: 86%) [2014-15]
- Economically disadvantaged students: 78% (CA: 74%) [2016-17]

Exhibit 12: Annual average community college student completions for small business and entrepreneurship programs

0506.40 Small Business and Entrepreneurship	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – Small Business Entrepreneur	105	
Associate Degree		4
Certificate 30 to < 60 semester units		1*
Certificate 18 to < 30 semester units		1
Moreno Valley	62	
Mt. San Jacinto – Small Business Operations	50	
Certificate 30 to < 60 semester units		1**
Norco	75	
Palo Verde		
Certificate 6 to < 18 semester units		9
Riverside - Entrepreneurship	200	
Associate Degree		1
Certificate 18 to < 30 semester units		2
Victor Valley	85	
Total Community College Headcount (2016-17)	577	
Total Annual Average Community College Credentials (2014-17)		17

Source: LaunchBoard, IPEDS, COCI

*Chaffey issued one 30 to < 60 semester unit certificate in 2014-15

**Mt. San Jacinto issued one 30 to < 60 semester unit certificate in 2016-17

0506.40 Small Business and Entrepreneurship program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of students who completed 12+ CTE units in one year: 97 (CA: 21) [2016-17]
- Number of students who transferred to a 4-year institution: 43 (CA: 12)
- Employed in the fourth fiscal quarter after exit: 54% (CA: 59%)
- Median annual earnings after exit: \$23,229 (CA: \$25,231)
- Median change in earnings: 53% (CA: 45%)
- The proportion of students who attained a living wage: 47% (CA: 59%)
- Job closely related to the field of study: N/A (CA: 90%) [2014-15]
- Economically disadvantaged students: 76% (CA: 69%) [2016-17]

Exhibit 13: Annual average community college student completions for retail store operations and management programs

0506.50 Retail Store Operations and Management	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – Retail Management	19	
Associate Degree		1*
Desert – Retail Management		
Certificate 30 to < 60 semester units		1
Certificate 18 to < 30 semester units		2
Norco College – Retail Management (WAFC)		
Certificate 30 to < 60 semester units		1**
Riverside	64	
Associate Degree		1
Certificate 30 to < 60 semester units		1
San Bernardino – Retail Management		
Certificate 30 to < 60 semester units		2
Total Community College Headcount (2016-17)	83	
Total Annual Average Community College Credentials (2014-17)		7

Source: LaunchBoard, IPEDS, COCI

*Chaffey issued one associate degree in 2014-15

**Norco issued one 30 to < 60 semester unit certificate in 2016-17

0506.50 Retail Store Operations and Management program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of students who completed 12+ CTE units in one year: 17 (CA: 15) [2016-17]
- Number of students who transferred to a 4-year institution: N/A (CA: 0)
- Employed in the fourth fiscal quarter after exit: 91% (CA: 85%)
- Median annual earnings after exit: \$26,170 (CA: \$48,037)
- Median change in earnings: N/A (CA: 19%)
- The proportion of students who attained a living wage: N/A (CA: 91%)
- Job closely related to the field of study: N/A (CA: 88%) [2014-15]
- Economically disadvantaged students: 88% (CA: 75%) [2016-17]

Exhibit 14: Annual average community college student completions for international business and trade programs

0508.00 International Business and Trade	Annual Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – International Business	133	
Riverside	131	
Certificate 6 to < 18 semester units		6
Total Community College Headcount (2016-17)	264	
Total Annual Average Community College Credentials (2014-17)		6

Source: LaunchBoard, IPEDS, COCI

0508.00 International Business and Trade program outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of students who completed 12+ CTE units in one year: 86 (CA: 23) [2016-17]
- Number of students who transferred to a 4-year institution: 11 (CA: 11)
- Employed in the fourth fiscal quarter after exit: 47% (CA: 69%)
- Median annual earnings after exit: \$12,454 (CA: \$28,066)
- Median change in earnings: 35% (CA: 34%)
- The proportion of students who attained a living wage: N/A (CA: 50%)
- Job closely related to the field of study: N/A (CA: 100%) [2014-15]
- Economically disadvantaged students: 79% (CA: 76%) [2016-17]

Exhibit 15: Annual average community college student completions for business administration and management, general programs

52.0201 – Business Administration and Management, General	Other Educational Institutions Annual Average Certificates or Other Credit Credentials (2013-16)
Argosy University-Inland Empire	
Associate Degree	1*
Platt College-Ontario	
Associate Degree	2
Platt College-Riverside	
Associate Degree	2
Summit College	
Award < 1 academic yr	10
The University of America	
Associate Degree	1**
Total annual average other credentials (2013-16)	15

Source: IPEDS

*Argosy University-Inland Empire issued one associate degree in 2013-14.

**The University of America issued one associate degree in 2013-14.

Sources

California Community Colleges Chancellor's Office Management Information Systems (MIS)
 Chancellor's Office Curriculum Inventory (COCI, version 2.0)
 CTE LaunchBoard
 Economic Modeling Specialists International (EMSI)
 Integrated Postsecondary Education Data System (IPEDS)
 Labor Insight/Jobs (Burning Glass)
 MIT Living Wage Calculator
 O*Net Online
 Taxonomy of Programs, 6th Edition

Michael Goss, Director
 Center of Excellence, Inland Empire/Desert Region
michael.goss@chaffey.edu
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Appendix: Occupation definitions, sample job titles, five-year projections, and earnings for entrepreneurship occupations

Occupation Definitions (SOC code), Education and Training Requirement, Community College Education Attainment

General and Operations Managers (11-1021)

Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.

Sample job titles: Business Manager, Facilities Manager, Facility Manager, General Manager (GM), Operations Director, Operations Manager, Plant Manager, Plant Superintendent, Production Manager, Store Manager

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 35%

Administrative Services Managers (11-3011)

Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services.

Sample job titles: Administrative Coordinator, Administrative Director, Administrative Manager, Administrative Officer, Administrative Specialist, Administrator, Business Administrator, Business Manager, Facilities Manager, Office Manager

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 38%



Industrial Production Managers (11-3051)

Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

Sample job titles: Area Plant Manager, General Production Manager, Manufacturing Coordinator, Manufacturing Manager, Plant Manager, Plant Senior Manager, Product Line Manager, Production Control Manager, Production Manager, Sub Plant Manager

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 30%

Food Service Managers (11-9051)

Plan, direct, or coordinate activities of an organization or department that serves food and beverages.

Sample job titles: Banquet Manager, Catering Manager, Food and Beverage Director, Food and Beverage Manager, Food Service Director, Food Service Manager, Food Service Supervisor, Kitchen Manager, Restaurant General Manager, Restaurant Manager

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 37%

Lodging Managers (11-9081)

Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.

Sample job titles: Bed and Breakfast Innkeeper, Front Desk Manager, Front Office Director, Front Office Manager, Guest Relations Manager, Guest Service Manager, Hotel Manager, Night Manager, Resort Manager, Rooms Director

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 37%

Buyers and Purchasing Agents (13-1028)

Purchase goods or services for further processing, resale, or to enable operation of an establishment. May analyze past buying trends, sales records, price, and quality of goods or services. May select, order, and authorize payment according to contractual agreements. May conduct meetings with sales personnel and introduce new products. Includes wholesale and retail buyers and purchasing agents for farm products, equipment, and raw materials.

Sample job titles: Any Commodity Buyer, Buyer, Buying Agent, Commodity Manager, Consumer Director, Contract Agent, Other Farm Products Purchasing Agent, Merchandise Worker, Merchandiser, Merchandising Manager, Origination Specialist, Platform Director, Procurement Manager, Procurement Specialist, Produce Buyer, Produce Shipper, Purchasing Agent, Purchasing Coordinator, Purchasing Specialist, Raw Products Director, Resident Buyer, Seed Buyer, Shipper, Stock Buyer, Buyer Assistant, Commodity Buyer, Commodity Manager, Contracts Specialist, Fashion Buyer, Contract Administrator, Contract Analyst, Contract Specialist, Contractor Buyer, Contracts Administrator, Contracts Manager

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: One to twelve months on-the-job training

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 32%



Cost Estimators (13-1051)

Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.

Sample job titles: Acquisition Cost Estimator, Construction Estimator, Cost Analyst, Cost and Risk Analysis Manager, Cost Consultant, Cost Engineer, Cost Estimator, Estimator, Estimator Project Manager, Preconstruction Manager

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: One to twelve months on-the-job training

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 39%

Business Operations Specialists, All Other (13-1199)

All business operations specialists not listed separately.

Sample job titles: Administrative Analyst, Business Agent, Business Development Assistant, Consultant, Contract Negotiator, Corporate Planner, Cue, Disaster or Damage Control Specialist, Employee Adviser, Ethics Officer, Field Organizer, Operations Assistant, Supervisor, Personnel Adviser, Personnel Analyst, Personnel Consultant, Personnel Counselor, Personnel Officer, Personnel Representative, Personnel Security Specialist, Personnel Specialist, Personnel Worker, Protocol Officer, Provider Relations Representative, Purchase Price Analyst, Purser, Quality Assurance Representative

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 24%

First-Line Supervisors of Retail Sales Workers (41-1011)

Directly supervise and coordinate activities of retail sales workers in an establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.

Sample job titles: Bakery Manager, Delicatessen Manager, Department Manager, Department Supervisor, Grocery Manager, Key Carrier, Meat Department Manager, Parts Sales Manager, Shift Manager, Store Manager

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 39%

Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)

Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.

Sample job titles: Account Development Manager, Account Executive, Account Manager, Channel Sales Director, Distribution Sales Manager, Inside Sales Representative, Marketing Representative, Sales Director, Sales Manager, Sales Representative

Entry-Level Educational Requirement: Bachelor's degree

Training Requirement: One to twelve months on-the-job training

Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework: 31%



Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

Sample job titles: Account Executive, Account Manager, Outside Sales, Outside Sales Representative, Sales, Sales Consultant, Sales Director, Sales Rep, Sales Representative, Salesman

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: One to twelve months on-the-job training

Percentage of incumbent workers with a Community College Credential or Some Postsecondary

Coursework: 31%

First-Line Supervisors of Office and Administrative Support Workers (43-1011)

Directly supervise and coordinate the activities of clerical and administrative support workers.

Sample job titles: Accounting Manager, Accounts Payable Supervisor, Accounts Receivable Manager, Administrative Supervisor, Customer Service Manager, Customer Service Supervisor, Office Coordinator, Office Manager, Office Supervisor, Staff Services Manager

Entry-Level Educational Requirement: High school diploma or equivalent

Training Requirement: None

Percentage of incumbent workers with a Community College Credential or Some Postsecondary

Coursework: 40%



Table 1. 2017 to 2022 job growth, wages, education, training, and work experience required for the entrepreneurship occupational group, Inland Empire/Desert Region, **All (Employees and Self-Employed)**

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
General and Operations Managers (11-1021)	19,666	1,928	10%	2,021	\$31.36 to \$67.16	\$46.97	\$117,300	Bachelor's degree & none	5 years or more
First-Line Supervisors of Retail Sales Workers (41-1011)	16,346	525	3%	1,873	\$13.07 to \$21.38	\$16.16	\$38,500	High school diploma or equivalent & none	Less than 5 years
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)	15,578	1,126	7%	1,835	\$19.11 to \$38.41	\$26.59	\$65,900	High school diploma or equivalent & 1-12 months	None
First-Line Supervisors of Office and Administrative Support Workers (43-1011)	14,933	866	6%	1,655	\$20.85 to \$31.89	\$26.04	\$57,200	High school diploma or equivalent & none	Less than 5 years
Business Operations Specialists, All Other (13-1199)	8,371	602	7%	887	\$22.40 to \$40.00	\$30.41	\$67,500	Bachelor's degree & none	None
Food Service Managers (11-9051)	4,443	292	7%	537	\$11.13 to \$23.94	\$16.77	\$39,700	High school diploma or equivalent & none	Less than 5 years

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Buyers and Purchasing Agents (13-1028)	4,158	97	2%	412	\$20.31 to \$34.33	\$25.52	\$59,600	Bachelor's degree & 1-12 months	None
Administrative Services Managers (11-3011)	3,076	240	8%	298	\$34.73 to \$60.39	\$46.85	\$104,300	Bachelor's degree & none	Less than 5 years
Cost Estimators (13-1051)	2,928	334	11%	362	\$20.36 to \$37.35	\$28.17	\$64,000	Bachelor's degree & 1-12 months	None
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)	1,715	81	5%	195	\$25.75 to \$46.39	\$31.65	\$76,700	Bachelor's degree & 1-12 months	None
Industrial Production Managers (11-3051)	1,440	64	4%	114	\$34.73 to \$60.85	\$45.79	\$102,800	Bachelor's degree & none	5 years or more
Lodging Managers (11-9081)	468	7	1%	52	\$15.66 to \$47.01	\$22.52	\$66,300	High school diploma or equivalent & none	Less than 5 years
Total	93,124	6,160	7%	10,241	-	-	-	-	-

Source: EMSI 2018.4

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage

Table 2. 2017 to 2022 job growth, wages, education, training, and work experience required for the entrepreneurship occupational group, Inland Empire/Desert Region, **Self-Employed Only**

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
First-Line Supervisors of Retail Sales Workers (41-1011)	4,282	(253)	(6%)	434	\$12.15 to \$14.79	\$46.97	\$27,700	High school diploma or equivalent & none	Less than 5 years
Food Service Managers (11-9051)	1,438	9	1%	154	\$9.55 to \$11.02	\$16.16	\$21,200	High school diploma or equivalent & none	Less than 5 years
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012)	977	(42)	(4%)	96	\$21.08 to \$26.13	\$26.59	\$48,100	High school diploma or equivalent & 1-12 months	None
Buyers and Purchasing Agents (13-1028)	335	11	3%	34	\$23.78 to \$24.61	\$26.04	\$50,200	Bachelor's degree & 1-12 months	None
First-Line Supervisors of Office and Administrative Support Workers (43-1011)	275	6	2%	28	\$24.06 to \$26.55	\$30.41	\$52,600	High school diploma or equivalent & none	Less than 5 years
General and Operations Managers (11-1021)	260	11	4%	23	\$22.24 to \$23.72	\$16.77	\$47,800	Bachelor's degree & none	5 years or more

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage*	Median Hourly Wage*	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Business Operations Specialists, All Other (13-1199)	161	28	17%	21	\$40.40 to \$44.18	\$25.52	\$87,200	Bachelor's degree & none	None
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011)	141	(19)	(13%)	13	\$28.57 to \$35.40	\$46.85	\$65,100	Bachelor's degree & 1-12 months	None
Lodging Managers (11-9081)	106	(20)	(19%)	10	\$13.19 to \$18.14	\$28.17	\$32,000	High school diploma or equivalent & none	Less than 5 years
Cost Estimators (13-1051)	104	4	4%	11	\$17.40 to \$19.80	\$31.65	\$38,400	Bachelor's degree & 1-12 months	None
Industrial Production Managers (11-3051)	75	11	15%	8	\$27.71 to \$28.08	\$45.79	\$58,100	Bachelor's degree & none	5 years or more
Administrative Services Managers (11-3011)	21	2	10%	2	\$28.00 to \$28.32	\$22.52	\$58,600	Bachelor's degree & none	Less than 5 years
Total	8,175	(251)	(3%)	833	-	-	-	-	-

Source: EMSI 2018.4

*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage