Graphic Art and Design

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

Summary

- Employment for the graphic art and design occupational group is expecting to **increase 5% between 2017 and 2022** in the Inland Empire/Desert Region. A total of **1,878 job openings or 376 annual openings** will be available over the five-year timeframe.

- The median wages for each of the graphic art and design occupations is **above the living wage estimate of $12.39 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 completers for the selected community college programs in the region **(49 annual average credentials, 56 other educational institution credentials, 105 total)**, and the annual openings for graphic art and design occupations across the region **(376 average annual openings).**

Introduction

This report details the occupations relevant to the graphic art and design program. The graphic art and design program prepares individuals for careers in graphic design through the application of artistic techniques for commercial or technical communication. The program also includes design principles, color theory, typography, concepts sketching, imaging, and communication skills[1]. Also included in this report is student completion data for the website design and development program, which focuses on the principles of design, user navigation, graphics applications and other authoring tools to design, edit and publish web pages, documents, images, graphics, sound and multimedia products for the internet. The three occupations included in the graphic art and design occupational group are the following:

- Graphic Designers
- Multimedia Artists and Animators
- Web Developers

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[1] The Taxonomy of Programs, 6th Edition, February 2004
http://extranet.cccco.edu/portals/1/aa/credit/2013files/topmanual6_2009_09corrected_12.5.13.pdf

Job Opportunities

In 2017, there were 3,857 jobs in the graphic art and design occupational group in the Inland Empire/Desert Region. Employment in this group is expected to increase 5% through 2022. Employers will need to hire 1,878 workers over the next five years to fill new jobs and to backfill positions that workers are leaving –including retirements. Table 1 in the appendix shows the projected job growth, wages, typical education, training, and work experience required for each of the occupations included in this report.

Exhibit 1: Five-year projections for the graphic art and design occupational group in the Inland Empire/Desert Region

Region	2017 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Inland Empire/Desert	3,857	5%	1,878	376	19%

Source: EMSI 2018.4

Earnings

The median wage for each of the graphic art and design occupations is above the MIT Living Wage estimate of $12.39 per hour for a single adult living in the Inland Empire/Desert Region. These occupations' experienced-level wages are sufficient for two adults and one child ($14.75 per hour, per adult or $30,680 annually for each adult). Exhibit 2 displays wage information for this occupational group in the Inland Empire/Desert Region.

Exhibit 2: Earnings for the graphic art and design occupational group in the Inland Empire/Desert Region

Occupation	Entry to Experienced Hourly Earnings Range*	Median Wage*	Average Annual Earnings
Graphic Designers	$17.25 to $23.88	$19.66	$45,000
Multimedia Artists and Animators	$11.94 to $20.73	$14.15	$35,900
Web Developers	$17.53 to $30.11	$20.98	$52,500

Source: EMSI 2018.4
*Entry Hourly is 25th percentile wage, the median is 50th percentile wage, experienced is 75th percentile wage.

Job Postings, Top Employers, Skills, and Education

Exhibit 3 shows the number of job ads posted during the last 12 months and the average time to fill each occupation in the region and nationally. On average, open positions for the graphic art and design occupational group take 20 days longer to fill in the Inland Empire/Desert Region than in the nation as a whole, indicating that open positions are much harder to fill locally.

Exhibit 3: Job ads and time to fill for the graphic art and design occupational group in the Inland Empire/Desert during the last 12 months, Mar 2018 – Feb 2019

Occupation	Job Ads	Regional Average Time to Fill (Days)	National Average Time to Fill (Days)
Graphic Designers	336	77	33
Multimedia Artists and Animators	20	45	37
Web Developers	715	47	39
Total	**1,071**	-	-

Source: Burning Glass – Labor Insights

Exhibit 4 displays a sample of the employers that have been posting the most job ads for graphic art and design occupations from the last 12 months in the Inland Empire/Desert Region.

Exhibit 4: Employers posting the most job ads for graphic art and design occupations in the Inland Empire/Desert Region, Mar 2018 – Feb 2019

Occupation	Employers
Web Developers (*n=278*)	• Ersi • CSRA
Graphic Designers (*n=262*)	• California State University, San Bernardino • Ersi
Multimedia Artists and Animators (*n=18*)	• Media Zoo • DK Global, Inc.

Source: Burning Glass – Labor Insights

Exhibit 5 lists a sample of in-demand specialized, employability, and software and programming skills that employers are seeking when looking for workers to fill graphic art and design positions. Most employers are seeking candidates with Adobe Create Suite software skills and creativity skills.

Exhibit 5: Sample of in-demand skills from employer job ads for graphic art and design occupations in the Inland Empire/Desert Region, Mar 2018 – Feb 2019

Occupation	Specialized skills	Employability skills	Software and Programming Skills
Web Developers *(n=657)*	• Front-End Development • User Interface (UI) Design • Object-Oriented Analysis and Design (OOAD)	• Communication Skills • Creativity • Problem Solving	• JavaScript • SQL • Hypertext Preprocessor (PHP)
Graphic Designers *(n=316)*	• Social Media • Typesetting • Web Site Design	• Creativity • Detail-Oriented • Communication Skills	• Adobe Creative Suite* • Microsoft Office • HTML5
Multimedia Artists and Animators *(n=20)*	• Motion Graphics • 3D Modeling/Design • Budgeting	• Creativity • Organizational Skills • Teamwork/Collaboration	• Adobe Creative Suite* • Cinema 4D • 3D Studio Max

Source: Burning Glass – Labor Insights
*Adobe Creative Suite contains Adobe Photoshop, InDesign, Illustrator, Acrobat, as well as others and is widely considered to be the industry standard for graphic design.

Exhibit 6 displays the entry-level education typically required to enter these occupations according to the Bureau of Labor Statistics (BLS). This chart also displays educational attainment for incumbent workers with "some college, no degree" and an "associate degree" according to the U.S. Census (2015-16) and the minimum advertised education requirement requested by employers in online job ads. According to job ads, the majority of employers are looking for candidates in possession of a bachelor's degree or higher.

Exhibit 6: Educational attainment and online job ads with minimum advertised education requirements for graphic art and design occupations in the Inland Empire/Desert Region, Mar 2018 – Feb 2019

Occupations	Typical Entry-Level Education Requirement	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
Web Developers	Associate degree	25%	313	5%	5%	90%
Graphic Designers	Bachelor's degree	29%	176	17%	13%	70%
Multimedia Artists and Animators	Bachelor's degree	28%	8	13%	-	87%

Source: EMSI 2018.4, Burning Glass – Labor Insights
* Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework

Student Completions

Exhibits 7 & 8 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 as well as the program titles used at each college, sourced from the Chancellor's Office Curriculum Inventory (COCI). Exhibits 9 & 10 display credentials granted from 2013 to 2016 outside of the California Community Colleges 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 award, 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(s) and region.

Exhibit 7: Annual average community college student completions for graphic art and design programs in the Inland Empire/Desert Region

1030.00 – Graphic Art and Design	Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey	34	
Mt. San Jacinto	161	
Riverside		
Certificate 6 to < 18 semester units		25
San Bernardino - *Graphic Design, Web and Multimedia Design, Graphic Design*	177	
Associate Degree		11
Certificate 18 to < 30 semester units		9
Victor Valley	158	
Total CC Headcount (2016-17)	**530**	
Total annual average community college credentials (2014-17)		**45**

Source: LaunchBoard, IPEDS

1030.00 – Graphic Art and Design program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of course enrollments: 654 (California median: 218) [2016-17]
- Number of students who completed 12+ CTE units in one year: 50 (CA: 33) [2016-17]
- Number of students who transferred to a 4-year institution: 33 (CA: 19)
- Employed in the fourth fiscal quarter after exit: 65% (CA: 64%)
- Median annual earnings: $14,645 (CA: $20,323)
- The percentage in a job closely related to the field of study: 75% (CA: 67%) [2014-15]
- Median change in earnings: 111% (CA: 58%)
- The proportion of students who attained a living wage: N/A (CA: 47%)
- Economically disadvantaged students: 77% (CA: 64%) [2016-17]

Exhibit 8: Annual average community college student completions for website design and development programs in the Inland Empire/Desert Region

0614.30 – Website Design and Development	Community College Headcount (2016-17)	Community College Annual Average Credentials (2014-17)
Chaffey – *Web Design*	19	
Associate Degree		2
Certificate 18 to < 30 semester units		2
Mt. San Jacinto	50	
Norco	28	
Total CC Headcount (2016-17)	**97**	
Total annual average community college credentials (2014-17)		**4**

Source: LaunchBoard, IPEDS

0614.30 – Website Design and Development program Strong Workforce outcomes in the Inland Empire/Desert Region in the academic year 2015-16 [unless noted otherwise]:

- Number of course enrollments: 106 (California median: 68) [2016-17]
- Number of students who completed 12+ CTE units in one year: 25 (CA: 20) [2016-17]
- Number of students who transferred to a 4-year institution: N/A (CA: 14)
- Employed in the fourth fiscal quarter after exit: 67% (CA: 66%)
- Median annual earnings: $17,324 (CA: $27,242)
- The percentage in a job closely related to the field of study: N/A (CA: 100%) [2014-15]
- Median change in earnings: 81% (CA: 53%)
- The proportion of students who attained a living wage: N/A (CA: 70%)
- Economically disadvantaged students: 81% (CA: 65%) [2016-17]

Exhibit 9: Annual average community college student completions for graphic design programs in the Inland Empire/Desert Region

50.0409 – Graphic Design	Other Educational Institutions Annual Average Certificates or Other Credit Credentials (2013-16)
Argosy University-The Art Institute of California-Inland Empire	
Associate Degree	36
Platt College-Ontario	
Associate Degree	10
Platt College-Riverside	
Associate Degree	7
Total annual average other credentials	**53**

Source: IPEDS

Exhibit 10: Annual average community college student completions for web page, digital/multimedia and information resources design programs in the Inland Empire/Desert Region

11.0801 – Web Page, Digital/Multimedia and Information Resources Design	Other Educational Institutions Annual Average Certificates or Other Credit Credentials (2013-16)
Argosy University-The Art Institute of California-Inland Empire	
Award 1 < 2 academic yrs	3
Total annual average other credentials	**3**

Source: IPEDS

Sources

California Community Colleges Chancellor's Office Management Information Systems (MIS)

Center of Excellence TOP to SOC Crosswalk

Chancellor's Office Curriculum Inventory (COCI 2.0)

CTE LaunchBoard

Economic Modeling Specialists International (EMSI)

Labor Insight/Jobs (Burning Glass)

MIT Living Wage Calculator

O*Net Online

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Appendix: Occupation definitions, five-year projections, and earnings for graphic art and design occupations

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

Web Developers (15-1134)

Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content.

Sample job titles: Designer, Technology Applications Engineer, Web Architect, Web Design Specialist, Web Designer, Web Developer, Web Development Director, Web Development Instructor, Webmaster

Entry-Level Educational Requirement: Associate degree
Training Requirement: None
Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 25%

Multimedia Artists and Animators (27-1014)

Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.

Sample job titles: 3D Animator, 3D Artist, Animation Director, Animator, Art Director, Artist, Creative Director, Graphic Artist, Graphic Designer, Illustrator

Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 28%

Graphic Designers (27-1024)

Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.

Sample job titles: Artist, Creative Director, Creative Manager, Design Director, Designer, Graphic Artist, Graphic Designer, Online Producer, Production Artist, Publications Designer

Entry-Level Educational Requirement: Bachelor's degree
Training Requirement: None
Percentage of incumbent workers with a Community College Award or Some Postsecondary Coursework: 29%

Table 1. 2017 to 2022 job growth, wages, typical education, training, and work experience required for the graphic art and design occupational group, Inland Empire/Desert Region

Occupation (SOC)	2017 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-level to Experienced Wage*	Median Wage*	Average Annual Earnings	Entry-Level Education & On-The-Job Training	Work Experience Required
Graphic Designers (27-1024)	2,495	109	4%	256	$17.25 to $23.88	$19.66	$45,000	Bachelor's degree & none	None
Web Developers (15-1134)	1,068	86	8%	93	$17.53 to $30.11	$20.98	$52,500	Associate degree & none	None
Multimedia Artists and Animators (27-1014)	294	13	4%	26	$11.94 to $20.73	$14.15	$35,900	Bachelor's degree & none	None
Total	3,857	208	5%	376	-	-	-	-	-

Source: EMSI 2018.4

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