## Construction Crafts Technology (TOP 0952.00) Regional Program Demand Report

## Foothill College, San Francisco larger MSA



## **Introduction and Contents**

### Contents

Executive Summary	3
Job Outlook Summary	5
Inverse Staffing Patterns	9
Regional Graduation Summary	10
Occupational Programs & Completers	12

## **Purpose and Goals**

This report is designed to integrate and analyze data from multiple sources to help educational institutions discover regional labor market needs for certain postsecondary programs of study. The overall goal is to help a college align their program offerings the economy and labor market of its service region. To do this, the report selects a set of focus occupations, determines the regional job outlook for them, and compares this to the number of recent graduates in related programs at regional educational institutions. While this is a first step toward a supply/demand analysis, for increased accuracy it could be extended with survey-based information from local employers regarding their hiring outlook and recruitment sources.

The occupation employment and wage numbers are from EMSI's national Complete Employment database, which is built using numerous published data sources from the federal Bureau of Labor Statistics, Bureau of Economic Analysis, and Bureau of the Census. In addition, the report uses industry/occupation data and projections created by the State of AnyState. The completions-by-program and program-to-occupation links use data from the U.S. Department of Education.

These data sources have been specially processed and harmonized to provide more complete and detailed data than any individual source used. For more information, see the final page of this report.

### **Focus College**

Foothill College

### **Region Definition**

Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara

## **Key Terms and Concepts**

**Programs**: Courses of postsecondary study defined by CIP (Classification of Instructional Programs) codes.

**Occupation:** A category of workers defined by the Standard Occupational Classification (SOC).

**Relating occupations to Programs:** EMSI determines these links using information from the U.S. Department of Education.

**Replacement Jobs:** The estimated number of job openings in an occupation due to retirement, turnover, and other factors aside from job growth. Based on national percentages by occupation.

**Annual openings:** The sum of new jobs and estimated replacement jobs for a given occupation, divided by the number of years in the timeframe.

**Earnings:** For industries, total annual earnings per worker is reported; these earnings include wages, salaries, profits, and benefits. Occupational earnings are reported as median hourly wage only.

**Jobs:** Full-time and part-time positions held by proprietors and payroll employees in the public or private sector. May exceed actual worker count.

**Projections:** Estimates of future job or population numbers based on (1) recent historical regional trends and (2) published forecasts created by a consensus of state and federal agencies.

## **Executive Summary**

### **Overview**

This report focuses on **14 occupations** which are expected to provide **720 annual job openings** from 2008-2013 in the San Francisco larger MSA 6-county area. Meanwhile, in 2007, area colleges produced **624 graduates** in **24 programs** related to these occupations. The numbers indicate an opportunity for area colleges to expand their offerings in this field.<sup>1</sup>

## **Focus Occupations**

The following occupations were selected for analysis in this report:<sup>2</sup>

- First-line supervisors/managers of construction trades and extraction workers
- Carpet installers
- · Floor layers, except carpet, wood, and hard tiles
- Floor sanders and finishers
- Construction laborers
- Tapers
- Insulation workers, floor, ceiling, and wall
- Insulation workers, mechanical
- · Plasterers and stucco masons
- Reinforcing iron and rebar workers
- Structural iron and steel workers
- Fence erectors
- Hazardous materials removal workers
- · Construction and related workers, all other

### **Focus Programs**

The key occupations above correspond to the following standard postsecondary program titles:<sup>3</sup>

- Hazardous Materials Management and Waste Technology/Technician
- Mason/Masonry
- Carpentry/Carpenter
- Electrical and Power Transmission Installation/Installer, General

- Electrician
- Lineworker
- · Electrical and Power Transmission Installers, Other
- Building/Property Maintenance and Management
- Concrete Finishing/Concrete Finisher
- Building/Home/Construction Inspection/Inspector
- Drywall Installation/Drywaller
- Glazier
- Painting/Painter and Wall Coverer
- Roofer
- Metal Building Assembly/Assembler
- Building/Construction Site Management/Manager
- Building/Construction Finishing, Management, and Inspection, Other
- Plumbing Technology/Plumber
- Well Drilling/Driller
- Blasting/Blaster
- Construction Trades, Other
- Mechanic and Repair Technologies/Technicians, Other
- Construction/Heavy Equipment/Earthmoving Equipment
   Operation
- Construction Management

### Labor Market Outlook

Aggregated data for all focus occupations:

Region	State[s]	U.S.
62,597	348,868	3,024,769
62,621	357,967	3,132,771
25	9,101	108,004
3,576	20,150	119,566
\$25.98	\$21.98	\$17.71
	62,597 62,621 25 3,576	62,597         348,868           62,621         357,967           25         9,101           3,576         20,150

## **Focus Program Completions**

"Completions" represents the total number of students to attain an award or degree at each given level in all the above college programs.

2007 Completions (Foothill College)	2007 Completions (All Colleges in Region)
200	610
0	14
-	-
-	-
-	-
-	-
-	-
200	624
	(Foothill College) 200 0

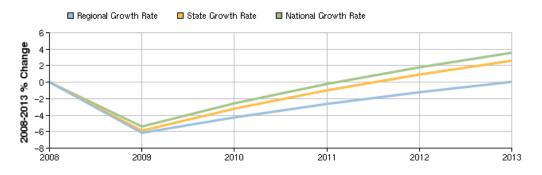
<sup>1.</sup> Annual job openings: new plus replacement jobs divided by years in the timeframe. Note that openings may be filled from various sources besides new graduates, and that graduates may work in occupations unrelated to their degree.

<sup>2.</sup> Occupations are defined by the federal SOC system. 3. Programs are defined by the federal CIP system. The occupation-program crosswalk is based on the CIP-SOC crosswalk published by the U.S. Department of Education.

## **Job Outlook Summary**

## Percent Change in Employment, All Focus Occupations

This graph shows yearly percent growth compared to 2008.



The table summarizes the regional job outlook for the focus occupations using employment projections and current wage data, indicating the demand for these kinds of workers and their pay scale. Colleges which strive to be labor market responsive, maximize their economic impact, and generate a return on investment for public funds should generally focus program resources to support high-growth, high-wage occupations.

## **Detailed Information by Occupation**

	2008-13 A	vg. Annual (	Openings	Median Hourly Earnings		
Occupation Title	Region	State[s]	U.S.	Region	State[s]	U.S.
Construction laborers	262	2,496	17,219	\$21.82	\$17.85	\$14.10
First-line supervisors/managers of construction trades and extraction workers	261	1,885	17,223	\$34.80	\$29.82	\$22.93
Plasterers and stucco masons	38	349	1,046	\$20.84	\$19.76	\$17.36
Hazardous materials removal workers	34	102	1,138	\$17.55	\$17.87	\$17.68
Structural iron and steel workers	30	264	2,444	\$31.25	\$24.22	\$20.13
Tapers	22	126	756	\$29.05	\$23.98	\$18.53
Construction and related workers, all other	22	150	1,290	\$21.24	\$18.19	\$15.44
Reinforcing iron and rebar workers	18	139	922	\$29.48	\$23.90	\$18.23
Fence erectors	12	93	793	\$18.16	\$17.29	\$13.68
Insulation workers, floor, ceiling, and wall	12	63	755	\$23.69	\$18.03	\$15.00
Floor layers, except carpet, wood, and hard tiles	7	66	374	\$24.74	\$21.69	\$16.58
Insulation workers, mechanical	5	27	771	\$23.03	\$21.45	\$17.40
Floor sanders and finishers	3	42	360	\$24.24	\$23.66	\$16.28
Carpet installers	-6	47	423	\$23.62	\$20.86	\$16.92
TOTAL	720	5,850	45,514	\$25.98	\$21.98	\$17.71

Source: EMSI Complete Employment, 3/2008.

Average annual openings: total new plus replacement jobs over the entire timeframe divided by number of years in the timeframe.

<sup>1.</sup> Projected new and replacement jobs can indicate demand, but are not necessarily equivalent to demand. The number is based on past regional performance of the industries that employ workers in the given occupations, combined with official, biannual state and federal ten-year estimates. Projections may underestimate demand if employers need these kinds of workers but are unable to hire qualified individuals to meet their needs, or if unforeseen business recruitment and growth outpace past trends. Similarly, projections may overestimate demand if there are unforeseen contractions in key employers, entire industries, or the national economy as a whole.

# **Regional Job Outlook**

The table summarizes the regional job outlook for the focus occupations using employment projections and current wage data, indicating the demand for these kinds of workers and their pay scale. Colleges which strive to be labor market responsive, maximize their economic impact, and generate a return on investment for public funds should generally focus program resources to support high-growth, high-wage occupations. Occupations are sorted by total 2008 jobs.

Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
Construction laborers	31,437	31,632	195	1,311	\$21.82
First-line supervisors/managers of construction trades and extraction workers	18,052	18,169	117	1,303	\$34.80
Tapers	2,349	2,310	-39	111	\$29.05
Plasterers and stucco masons	1,685	1,693	8	190	\$20.84
Carpet installers	1,632	1,490	-142	-32	\$23.62
Hazardous materials removal workers	1,621	1,623	2	171	\$17.55
Construction and related workers, all other	995	982	-13	109	\$21.24
Floor layers, except carpet, wood, and hard tiles	937	861	-76	33	\$24.74
Fence erectors	876	856	-20	61	\$18.16
Structural iron and steel workers	862	877	15	152	\$31.25
Floor sanders and finishers	670	636	-34	16	\$24.24
Insulation workers, floor, ceiling, and wall	601	597	-4	59	\$23.69
Reinforcing iron and rebar workers	588	608	20	91	\$29.48
Insulation workers, mechanical	292	288	-4	27	\$23.03
	62,597	62,621	25	3,601	\$25.98

Source: EMSI Complete Employment - Spring 2009.

## **State & National Job Outlook**

These two tables summarize the state and national job outlook for the focus occupations using employment projections and current wage data, indicating the demand for these kinds of workers and their pay scale. Occupations are in the same order as they are in the regional job outlook table on the previous page.

## **State Job Outlook**

Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
Construction laborers	176,461	182,675	6,214	12,482	\$17.85
First-line supervisors/managers of construction trades and extraction workers	101,425	104,159	2,734	9,426	\$29.82
Plasterers and stucco masons	14,540	14,711	171	1,744	\$19.76
Tapers	10,849	10,793	-56	632	\$23.98
Carpet installers	7,317	7,041	-276	234	\$20.86
Structural iron and steel workers	6,226	6,557	331	1,322	\$24.22
Hazardous materials removal workers	5,584	5,509	-75	509	\$17.87
Construction and related workers, all other	5,495	5,574	79	748	\$18.19
Floor layers, except carpet, wood, and hard tiles	4,863	4,612	-251	329	\$21.69
Fence erectors	3,978	4,075	97	466	\$17.29
Reinforcing iron and rebar workers	3,922	4,145	223	696	\$23.90
Floor sanders and finishers	3,587	3,532	-55	212	\$23.66
Insulation workers, floor, ceiling, and wall	3,263	3,234	-29	315	\$18.03
Insulation workers, mechanical	1,356	1,350	-6	137	\$21.45
	348,868	357,967	9,101	29,251	\$21.98

Source: EMSI Complete Employment - Spring 2009.

## **National Job Outlook**

Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
Construction laborers	1,432,888	1,483,586	50,698	86,095	\$14.10
First-line supervisors/managers of construction trades and extraction workers	1,035,970	1,083,211	47,241	86,115	\$22.93
Structural iron and steel workers	69,351	71,699	2,348	12,218	\$20.13
Tapers	68,294	69,665	1,371	3,778	\$18.53
Carpet installers	59,893	59,454	-439	2,113	\$16.92
Construction and related workers, all other	58,015	58,110	95	6,451	\$15.44
Plasterers and stucco masons	54,988	55,333	345	5,230	\$17.36
Hazardous materials removal workers	41,426	42,853	1,427	5,690	\$17.68
Floor layers, except carpet, wood, and hard tiles	40,575	40,426	-149	1,869	\$16.58
Floor sanders and finishers	35,499	36,429	930	1,802	\$16.28
Fence erectors	35,108	36,643	1,535	3,965	\$13.68
Insulation workers, mechanical	31,927	32,599	672	3,857	\$17.40
Insulation workers, floor, ceiling, and wall	31,618	32,288	670	3,775	\$15.00
Reinforcing iron and rebar workers	29,218	30,478	1,260	4,612	\$18.23

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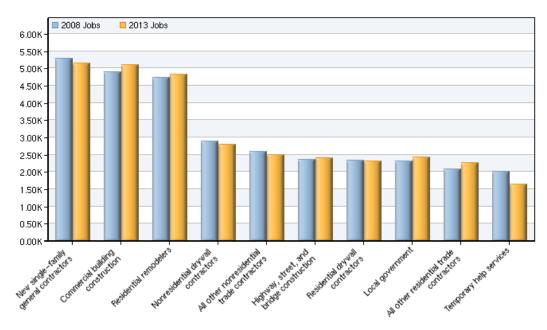
Occupation Title	2008 Jobs	2013 Jobs	New Jobs	New & Rep. Jobs	Median Hourly Earnings
	3,024,769	3,132,771	108,004	227,570	\$17.71

Source: EMSI Complete Employment - Spring 2009.

# **Inverse Staffing Patterns**

### **Industrial Makeup**

These are your region's top ten growing industries in the selected occupations.



NAICS Code	Description	2008 Jobs	2013 Jobs	Change	% Change
236115	New single-family general contractors	5,282	5,140	-142	-3%
236220	Commercial building construction	4,899	5,096	197	4%
236118	Residential remodelers	4,725	4,816	91	2%
238312	Nonresidential drywall contractors	2,887	2,794	-93	-3%
238992	All other nonresidential trade contractors	2,574	2,502	-72	-3%
237310	Highway, street, and bridge construction	2,353	2,409	56	2%
238311	Residential drywall contractors	2,327	2,301	-26	-1%
930000	Local government	2,298	2,412	114	5%
238991	All other residential trade contractors	2,087	2,255	168	8%
561320	Temporary help services	2,005	1,634	-371	-19%

## **Regional Graduation Summary**

Regional graduations ("completions" or number of awards/degrees granted) in the programs tied to the focus occupations are one indicator of workforce supply. (Other sources include in-migration of new workers to the region, promotion from within firms, and currently unemployed workers in the same or similar occupations.) The following table breaks down these graduations by program and award level at AnyRegion college and at all institutions in the region. A zero entry for completers indicates the program is offered but had no completions, while a "-" indicates the program is not offered.

CIP Code	Program Title	Award Level	2007 Completions, Your College	2007 Completions, Entire Region
15.0508	Hazardous Materials Management and Waste Technology/Technician	Award of less than 1 academic year	-	-
		Award of at least 1 but less than 2 academic years	-	-
		Associate's degree	-	-
46.0101	Mason/Masonry	[all]	-	-
46.0201	Carpentry/Carpenter	Award of at least 1 but less than 2 academic years	-	5
		Associate's degree	-	2
46.0301	Electrical and Power Transmission Installation/Installer, General	[all]	-	-
46.0302	Electrician	Award of less than 1 academic year	96	263
		Award of at least 1 but less than 2 academic years	67	82
		Associate's degree	-	1
46.0303	Lineworker	[all]	-	-
46.0399	Electrical and Power Transmission Installers, Other	[all]	-	-
46.0401	Building/Property Maintenance and Management	Award of less than 1 academic year	-	25
		Award of at least 1 but less than 2 academic years	-	91
46.0402	Concrete Finishing/Concrete Finisher	[all]	-	-
46.0403	Building/Home/Construction Inspection/Inspector	Award of less than 1 academic year	-	5
		Award of at least 1 but less than 2 academic years	-	б
		Associate's degree	-	4
46.0404	Drywall Installation/Drywaller	[all]	-	-
46.0406	Glazier	Award of less than 1 academic year	-	-
46.0408	Painting/Painter and Wall Coverer	Award of less than 1 academic year	-	-
46.0410	Roofer	Award of at least 1 but less than 2 academic years	-	-
		Associate's degree	-	-
46.0411	Metal Building Assembly/Assembler	[all]	-	-
46.0412	Building/Construction Site Management/Manager	Award of less than 1 academic year	-	-
		Award of at least 1 but less than 2 academic years	-	14
		Associate's degree	-	7

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CIP Code	Program Title	Award Level	2007 Completions, Your College	2007 Completions, Entire Region
		Award of at least 2 but less than 4 academic years	-	2
46.0499	Building/Construction Finishing, Management, & Inspection, Other	[all]	-	-
46.0503	Plumbing Technology/Plumber	Award of less than 1 academic year	22	25
		Award of at least 1 but less than 2 academic years	15	56
		Associate's degree	-	-
46.0504	Well Drilling/Driller	[all]	-	-
46.9999	Construction Trades, Other	[all]	-	-
47.9999	Mechanic and Repair Technologies/Technicians, Other	Award of less than 1 academic year	-	38
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation	[all]	-	-
52.2001	Construction Management	[all]	-	-
	TOTAL		200	626

Source: U.S. Department of Education, National Center for Education Statistics: Integrated Postsecondary Education Data System (IPEDS).

# **Occupational Programs & Completers**

The following section provides detailed information for each focus occupation, including the job outlook information provided above. Each occupation is also associated with one or more postsecondary programs (defined by standard CIP 2000 codes) using information published by the U.S. Department of Education with customizations by EMSI.

A zero entry for completers indicates the program is offered but had no completions, while a "-" indicates the program is not offered.

### **Summary Table**

Occupation	2008-2013 Avg. Annual Openings	2007 Completions, All Related Programs (College)	2007 Completions, All Related Programs (Region)	Total Related Programs	Total Occs. Sharing Same Programs
Construction laborers	262	-	-	1	14
First-line supervisors/managers of construction trades and extraction workers	261	200	588	20	52
Plasterers and stucco masons	38	-	-	1	14
Hazardous materials removal workers	34	-	38	3	16
Structural iron and steel workers	30	-	-	2	14
Tapers	22	-	-	1	14
Construction and related workers, all other	22	-	-	2	29
Reinforcing iron and rebar workers	18	-	-	1	14
Fence erectors	12	-	-	1	14
Insulation workers, floor, ceiling, and wall	12	-	-	1	14
Floor layers, except carpet, wood, and hard tiles	7	-	-	1	14
Insulation workers, mechanical	5	-	-	1	14
Floor sanders and finishers	3	-	-	1	14
Carpet installers	-6	-	-	1	14

Source: EMSI Complete Employment; U.S. Department of Education, IPEDS & Occupational Code Crosswalk - CIP 2000.

An occupation may be related to multiple programs and vice versa. Completions may be double-counted if related to multiple occupations; **do not total**. See columns "Total Related Programs" and "Total Occs. Sharing Same Programs" to refine interpretation of openings versus completions.

### **Detail Tables**

The following tables provide detailed information for focus occupations and related programs, comparing estimated average annual openings in each occupation with recent completions (awards/degrees) in related programs at both AnyRegion College and at all institutions in the region. Many postsecondary programs are linked to multiple occupations; this is shown in the final column of each table and is one indication that fewer program completers will likely enter the given occupation than the overall total would suggest.

Sources for this section: EMSI Complete Employment, 3/2008; U.S. Department of Education, IPEDS.

#### First-line supervisors/managers of construction trades and extraction workers

#### 2008-2013 Avg. Annual Openings: 261

Median Hourly Earnings: \$34.80

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	200	588	52
Mason/Masonry	-	-	5
Carpentry/Carpenter	-	7	2
Electrical and Power Transmission Installation/Installer, General	-	-	2
Electrician	163	346	4
Lineworker	-	-	-
Electrical and Power Transmission Installers, Other	-	-	-
Building/Property Maintenance and Management	-	116	1
Concrete Finishing/Concrete Finisher	-	-	3
Building/Home/Construction Inspection/Inspector	-	15	1
Drywall Installation/Drywaller	-	-	1
Glazier	-	-	1
Painting/Painter and Wall Coverer	-	-	3
Roofer	-	-	2
Building/Construction Site Management/Manager	-	23	2
Building/Construction Finishing, Management, and Inspection, Other	-	-	1
Plumbing Technology/Plumber	37	81	4
Well Drilling/Driller	-	-	6
Blasting/Blaster	-	-	1
Construction Trades, Other	-	-	13
Construction Management	-	-	-

#### **Carpet installers**

2008-2013 Avg. Annual Openings: **-6** Median Hourly Earnings: **\$23.62** 

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### Floor layers, except carpet, wood, and hard tiles

2008-2013 Avg. Annual Openings: 7

Median Hourly Earnings: \$24.74

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

### **Floor sanders and finishers**

#### 2008-2013 Avg. Annual Openings: 3

#### Median Hourly Earnings: \$24.24

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### **Construction laborers**

2008-2013 Avg. Annual Openings: **262** Median Hourly Earnings: **\$21.82** 

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### **Tapers**

2008-2013 Avg. Annual Openings: **22** Median Hourly Earnings: **\$29.05** 

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### Insulation workers, floor, ceiling, and wall

#### 2008-2013 Avg. Annual Openings: **12** Median Hourly Earnings: **\$23.69**

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### Insulation workers, mechanical

2008-2013 Avg. Annual Openings: 5

Median Hourly Earnings: \$23.03

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Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### **Plasterers and stucco masons**

2008-2013 Avg. Annual Openings: 38

Median Hourly Earnings: \$20.84

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### **Reinforcing iron and rebar workers**

2008-2013 Avg. Annual Openings: 18

Median Hourly Earnings: \$29.48

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### Structural iron and steel workers

2008-2013 Avg. Annual Openings: 30

Median Hourly Earnings: \$31.25

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Metal Building Assembly/Assembler	-	-	1
Construction Trades, Other	-	-	13

#### **Fence erectors**

#### 2008-2013 Avg. Annual Openings: 12

Median Hourly Earnings: \$18.16

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	14
Construction Trades, Other	-	-	14

#### Hazardous materials removal workers

#### 2008-2013 Avg. Annual Openings: 34

Median Hourly Earnings: \$17.55

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	38	16
Hazardous Materials Management and Waste Technology/Technician	-	-	1
Construction Trades, Other	-	-	13

Related Programs	2007 Completions,	2007 Completions,	Other Occupations
	College	Entire Region	Linked to Program
Mechanic and Repair Technologies/Technicians, Other	-	38	2

#### Construction and related workers, all other

2008-2013 Avg. Annual Openings: 22

Median Hourly Earnings: **\$21.24** 

Related Programs	2007 Completions, College	2007 Completions, Entire Region	Other Occupations Linked to Program
TOTAL, ALL RELATED PROGRAMS	-	-	29
Construction Trades, Other	-	-	14
Construction/Heavy Equipment/Earthmoving Equipment Operation	-	-	15

# **About the Data**

## Introduction

EMSI data is a compilation and harmonization of more than 80 government and private-sector sources. Updated every six months and based on the most recent data available, the dataset covers the entire US population and economy, down to each individual ZIP code. It includes data for industries, occupations, demographics, postsecondary institutions, and selected economic indicators.

## **Occupation Data**

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional "staffing patterns" (showing the average mix of job types in various industries) taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is augmented by data from the American Community Survey (U.S. Census). Replacement jobs and annual openings estimates are based on national survey data by occupation. As in the official government statistics, occupations are categorized by Standard Occupational Classification (SOC) codes and titles.

## **Completions Data**

Completions are voluntarily reported by postsecondary institutions through the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS). Completions are organized by program using the Classification of Instructional Programs (CIP) codes and titles.

## **Relating Occupations to Postsecondary Programs**

The occupation-to-program (SOC-to-CIP) "crosswalk" is a large table that describes which occupations are generally trained for by each standard postsecondary program (based on Classification of Instructional Programs [CIP] codes and titles, last updated in 2000). EMSI starts with the official crosswalk published by the U.S. Department of Education and customizes it in various ways to make it more accurate and practical for comparing programs to regional labor markets.

# **About Economic Modeling Specialists**

## **Products and Services**

EMSI provides integrated regional economic and labor market data, web-based analysis tools, data-driven reports, and custom consulting services. EMSI specializes in detailed information about regional economies for assessment and planning purposes, bringing together industry, workforce, economic development, and education/training perspectives.

EMSI's expertise is centered on regional economics, data integration and analysis, programming, and design so that it can provide the best available products and services for regional decision makers. EMSI recently merged with its sister company CCbenefits Inc.-well known for conducting socioeconomic impact studies for over 800 community and technical colleges across the nation-to offer an integrated portfolio of solutions for college, workforce, and economic development professionals.

## Clients

EMSI's client base includes hundreds of colleges, workforce boards, economic development organizations, governmental agencies, economists, consultants, academics, and private-sector analysts. With over four thousand current clients in the U.S., Canada, and the United Kingdom, EMSI's products and services are critical for informing regional policy.

## **Contact EMSI**

For more information about EMSI, visit us at www.economicmodeling.com, or call us toll-free at 866.999.3674.