Industrial Maintenance Mechanic Technology Occupational Group

*California and the Riverside-San Bernardino-Ontario Metropolitan Statistical Area (Riverside and San Bernardino counties combined)*

# Job Opportunities

In 2016, there nearly 38,400 industrial maintenance mechanic technology jobs in California. About

11% or more than 4,000 of these job opportunities were located in the Riverside-San BernardinoOntario MSA. Across the local region, industrial maintenance mechanic technology occupational employment is projected to increase by 11% through 2021; growing slightly faster than California overall at 10%. Local employers will need to hire more than 1,000 more new and replacement industrial maintenance mechanic technology workers over the next five years (includes retirements).

*Exhibit 1: Five-year projections for the industrial maintenance mechanic technology occupational group in the Riverside-San Bernardino-Ontario MSA and California*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Region** | **2016 Jobs** | **2021 Jobs** | **5-Yr Change** | **5-Yr %**  **Change** | **5-Yr Openings**  **(New +**  **Replacement Jobs)** | **Annual Openings**  **(New + Replacement**  **Jobs)** |
| Riverside-San  BernardinoOntario MSA | 4,054 | 4,511 | 457 | 11% | 1,009 | 202 |
| California | 38,396 | 42,291 | 3,895 | 10% | 8,928 | 1,786 |

# Earnings

The combined average entry-level wage for this occupational group is $16.42 per hour, above the

MIT Living Wage estimate of $12.10 for a single adult living in the Riverside-San BernardinoOntario MSA. The average annual earnings for this occupational group in the region is $51,900 per year, assuming full-time employment. The combined average entry-level hourly wage in California is $15.58 per hour, also above the living wage of $13.21 for the state. Hourly wages and annual average earnings for each occupation in this group within the Riverside-San Bernardino-Ontario MSA can be found in Appendix A.

*Exhibit 2: Average earnings for the industrial maintenance mechanic technology occupational group in the Riverside-San Bernardino-Ontario MSA and California*

|  |  |  |
| --- | --- | --- |
| **Region** | **Entry to** **Experienced Hourly Earnings Range\*** | **Avg. Annual Earnings** |
| Riverside-San Bernardino-Ontario MSA | $16.42 to $35.13 | $51,900 |
| California | $15.58 to $40.60 | $55,600 |

\*Entry Hourly is 10th percentile wage, experienced is 90th percentile wage.

# Job Ads, Top Employers, Skills, and Education in the Local Region

In 2016, there were a total of 210 job advertisements (ads) for the industrial maintenance mechanic technology occupational group in the Riverside-San Bernardino-Ontario MSA. There were 156 job ads for the same group of occupations in 2015, and 151 job ads in 2014.

Top employers posting job ads in the last 12 months (June 2016 – May 2017) for industrial maintenance mechanic technology occupational group included (181 total job ads, 41 job ads did not list and employer name):

|  |  |
| --- | --- |
| * C&W Services (9 job ads) * Under Armour (9) | * Medline Industries (7) * Anheuser-Busch Companies, Inc. (5) |

The top worksite cities in the region were Ontario, Riverside, San Bernardino, Rialto, and Rancho Cucamonga.

Exhibit 3 lists the top specialized and soft skills that employers are seeking when looking for workers to fill industrial maintenance mechanic technology positions.

*Exhibit 3: Top skills for the industrial maintenance mechanic technology occupational group in the Riverside-San Bernardino-Ontario MSA*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Occupations** |  | **Specialized skills** |  | **Soft skills** |
| Control and Valve  Installers and Repairers,  Except Mechanical Door | •  •  •  •  • | Programmable Logic  Controller (PLC)  Programming  Variable Frequency Drives  (VFDs)  Electrical Schematics  HMI  Wiring | •  •  •  •  • | Troubleshooting  Writing  Computer Skills  Organizational Skills  Communication Skills |
| Industrial Machinery Mechanics | •  • •  • | Schematic Diagrams  Forklift Operation  Programmable Logic  Controller (PLC)  Programming  Repair | •  •  •  • | Preventative Maintenance  Detail-Oriented  Troubleshooting  Physical Demand |
| Maintenance Workers, Machinery | •  •  •  • | Photovoltaic (PV) Systems  Commercial Construction  Process Improvement  Electrical Troubleshooting | •  •  • | Positive Disposition  Troubleshooting  Preventative Maintenance |

Exhibit 4 displays the education level requested by employers in online job ads. The majority of employers over the previous 12 months (June 2016-May 2017) were looking for a candidate with a high school diploma or vocational training.

*Exhibit 4: Online job ads with minimum advertised education requirements for the indust5rial maintenance mechanic technology occupational group in the Riverside-San Bernardino-Ontario MSA*

|  |  |  |  |
| --- | --- | --- | --- |
| **Occupations** | **High school diploma or vocational training** | **Associate degree** | **Bachelor’s degree or higher** |
| Control and Valve Installers and  Repairers, Except Mechanical Door | 95% | 5% | - |
| Industrial Machinery Mechanics | 97% | 3% | - |
| Maintenance Workers, Machinery | 100% | - | - |

# Student Completions and Student Outcomes

Exhibit 5 shows the annual average regional community college awards (associate degrees and certificates) conferred during the three academic years between 2013 and 2016, as well as other awards granted outside the California Community Colleges from 2012-2015, with the relevant TOP code. Please note an award 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 was obtained from the CTE LaunchBoard based on the selected TOP code(s) and region.

*Exhibit 5: Annual average community college student completions for the industrial systems technology program in the Riverside-San Bernardino-Ontario MSA*

|  |  |  |  |
| --- | --- | --- | --- |
| **0945.00 – Industrial Systems Technology and Maintenance** | **Headcount (2014-2015)** | **CC Annual**  **Avg. Awards**  **(2013-16)** | **Annual Avg.**  **Certificates or**  **Other Credit**  **Awards**  **(2012-15)** |
| **Barstow** | 31 | - | - |
| **Victor Valley** | 3 | - | - |
| **TOTAL Headcount** | **34** |  |  |
| **TOTAL CC Awards** |  | - | - |

**0945.00 Industrial Systems Technology and Maintenance program outcomes in the RiversideSan Bernardino-Ontario MSA:**

\*No program outcome data available for this TOP code

# Summary

Industrial maintenance mechanic technology occupational employment is projected to grow by 11% over the next five years within the Riverside-San Bernardino-Ontario MSA, which will yield approximately 1,000 jobs over the next five years, or 200 job openings per year. Further, the entry-level wages for this occupational group is $16.42 per hour, higher than the MIT Living Wage estimate for the local region. Almost all employers searching for workers in this occupational group are looking for a candidate with a high school degree or vocational training. Only two community colleges in the local region have students that are currently enrolled in the TOP code program listed above, and no corresponding completion data is available at this time.

**Sources**

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI) Class of Worker 2017.2 CTE LaunchBoard

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

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

Michael Goss, Director

Center of Excellence, Inland Empire/ Desert Region

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## Appendix A: Occupation definitions, five-year projections, and earnings for the industrial maintenance mechanic technology occupational group

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

### Control and Valve Installers and Repairers, Except Mechanical Door (49-9012)

Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors.

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: One to 12 months*

*Percentage with Community College Award or Some Postsecondary Coursework: 49%*

### Industrial Machinery Mechanics (49-9041)

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: More than 12 months*

*Percentage with Community College Award or Some Postsecondary Coursework: 42%*

### Maintenance Workers, Machinery (49-9043)

Lubricate machinery, change parts, or perform other routine machinery maintenance.

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: One to 12 months*

*Percentage with Community College Award or Some Postsecondary Coursework: 35%*

***Table 1. Job growth and wages for the industrial maintenance mechanic technology occupational group in the Riverside-San Bernardino-Ontario MSA***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Occupations (SOC code)** | **2016 Jobs** | **5-Yr Openings to 2021**  **(New +**  **Replacement Jobs)** | **Annual**  **Openings to 2021** | **Entry to**  **Experienced**  **Hourly Earnings**  **Range\*** | **Avg.**  **Annual**  **Earnings** |
| Industrial Machinery Mechanics (49-9041) | 2,428 | 683 | 137 | $16.66 to $35.66 | $52,000 |
| Maintenance Workers, Machinery (49-9043) | 996 | 174 | 35 | $12.75 to $28.41 | $41,900 |
| Control and Valve  Installers and Repairers,  Except Mechanical Door  (49-9012) | 629 | 152 | 30 | $21.24 to $43.66 | $67,000 |
| **Total** | **4,054** | **1,009** | **202** | **$16.42 to $35.13** | **$51,900** |

\*Entry is 10th percentile and experienced is 90th percentile hourly earnings