



# CITY OF DETROIT

## WIN Quarterly Report



# Introduction: WIN 16 County Partnership Region

## About this report

The Workforce Intelligence Network for Southeast Michigan (WIN) partnership is a collaboration of six Michigan Works! Agencies (MWAs) and ten community colleges across a 16-county region in Michigan. The counties in the WIN partnership include: Genesee, Hillsdale, Huron, Jackson, Lapeer, Lenawee, Livingston, Macomb, Monroe, Oakland, Saint Clair, Sanilac, Shiawassee, Tuscola, Washtenaw, and Wayne, along with the City of Detroit.

This report highlights labor market information for the City of Detroit with special sections devoted to 5 occupational groups. WIN's analysis of online job postings, a proxy for employer demand, is a pioneering method for tracking the health of the labor market.

Occupational groups include:

- Business & finance (page 7)
- Energy (page 12)
- Health care (page 17)
- Information technology (page 22)
- Skilled trades & technicians (manufacturing focused) (page 27)

Data analyzed includes:

- |  |                                 |
|--|---------------------------------|
| • Employer demand                            | • Wages offered in job postings |
| • Top posting jobs                           | • Employment                    |
| • In-demand credentials, degrees, and skills | • Unemployment                  |
| • Educational attainment required            | • Labor force                   |

## State of the Labor Market in Q1 2016

Quarter one 2016 (Q1 2016) represents yet another high in employer demand for workers in the City of Detroit. Q1 postings are typically higher than the previous year's Q4 postings, as the labor market expands after the winter/holiday lull in hiring. Postings in Q1 2016 are the highest compared to any other first quarter postings since 2011. This increase is promising and shows continued growth in employer need for workers. The growth pattern of employment continues to slowly make its way to labor force levels as we look at 2016.

Q1 is often a time of labor market expansion, and 2016 is no different. It is a positive sign that the southeast Michigan region, and in this report, the City of Detroit is moving into a steady business cycle of hiring and employer demand. However, current labor force participation is at its lowest levels since the 1980s. This means that fewer individuals are making themselves available for work. As noted by the Federal Reserve in recent months, lower labor force levels may be a new normal as employment continues to grow at a rate close to inflation. A new normal of low labor force participation is concerning because employers have extremely high demand for workers and often struggle to find individuals to meet their needs. A growing economy requires a strong labor force to ensure continued prosperity.



# Introduction: City of Detroit

## Key Findings

### **IT employment in Q1 2016 has grown over 21% in the City of Detroit since the low point in 2009.**

In 2009, only 6,432 Detroit workers were employed in IT jobs, and in Q1 2016, employment reached nearly 7,826, a growth of over 21%. See page 22 in the report.

### **Of job postings that specified an experience level for Business and Finance related jobs, 84% required a Bachelor's degree.**

Of the 1,690 Business and Finance group job postings that specified a desired experience level during Q1 2016, 84% (1,425) required a bachelor's degree. See page 9 in the report.

### **Of the top-10 Energy-related occupations in 2015, the highest median-level wage was for nuclear engineers, making over \$114,000 per year.**

Aside from public relations and fundraising managers, the next highest median-level salary for one of the top-10 Energy related occupations is more than \$10 per hour less than nuclear engineers make. See page 16 in the report.

### **Employment related to Health Care increased by 787 workers from 2015 to Q1 2016**

This increase of 787 individuals was the biggest since the jump from 2011 to 2012 of 603 individuals. See page 17 in the report.

### **Of the top-10 Skilled Trades-related occupations in 2015, tool and die makers and electronics engineering technicians held the highest median-level wage at over \$63,000 per year.**

While tool and die makers also have the highest entry-level wage, electronics engineering technicians had only the fifth-highest entry-level wage. See page 31 of the report.



# Executive Summary

## Postings Over Time

Online job postings in Q1 of 2016 for all occupations in the City of Detroit saw an increase of 5% (1,330) from the previous quarter. When compared to total online postings from one year ago in Q1 of 2015, this last quarter saw a 7% increase (1,936), continuing the upward trend as of Q4 2014.

## Total Online Job Postings

January 2011 - March 2016



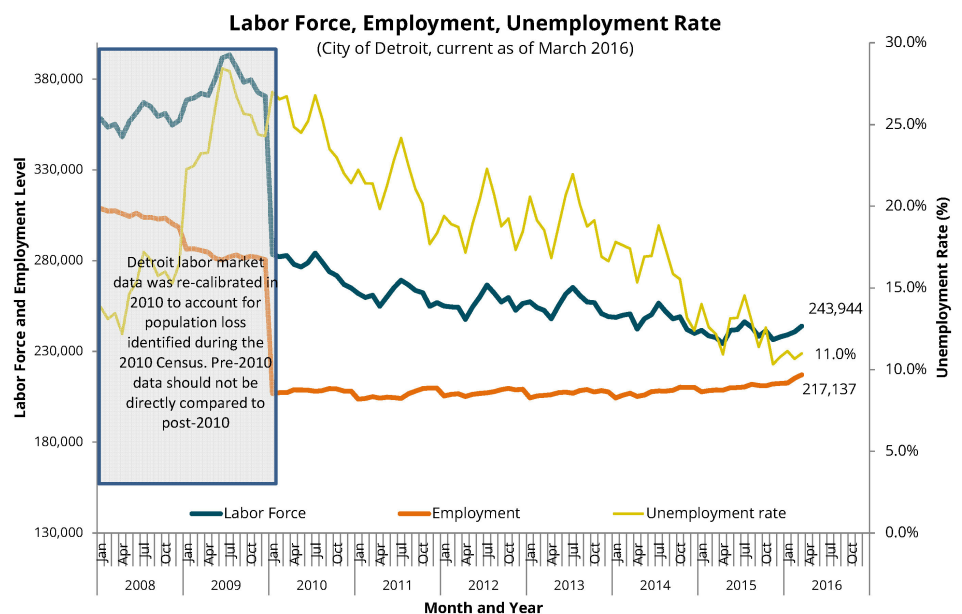
Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Labor Force, Employment, and Unemployment

Compared to the previous quarter, Q1 2016 has seen an increase of 2,657 individuals in the labor force (1.1%), an increase of 3,112 in employment (1.5%), and a decrease of 455 in unemployment (-1.7%). In terms of annual change, the labor force has grown by 1,316 (0.5%), employment has grown by 4,709 (2.2%), and unemployment has decreased by 3,392 (-11.4%). It is important to note that this annual change only compares the year 2015 to 2016 to-date. See the labor market data tables in appendix 1 at the end of this report for more details.

## Labor Force, Employment, Unemployment Rate

January 2011 - March 2016



Data: BLS  
Analysis: Workforce Intelligence Network





Online job postings nearly tripled in the City of Detroit to 29,300 since Q4 2011

%

3,112 newly employed individuals compared to Q4 2015

### Top Jobs In Demand

Quarter 1 2016



### Analysis

As seen in many other regions/ counties/reports, the top in-demand occupation in the City of Detroit in Q1 of 2016 was registered nurses with 2,079 online job postings. The top 10 occupations with the most online job postings have remained the same from Q4 2015 to Q1 2016, though some occupations have overtaken others.



Critical care nurses has joined the top 20 in-demand occupations



Registered nurses has kept its top spot in online job postings since Q2 2015

### Top Jobs In Demand

Quarter 1 2016

Financial Managers, Branch or Department	209
Accountants	208
Electrical Engineers	193
Marketing Managers	192
Mechanical Engineers	190
Business Intelligence Analysts	186
General and Operations Managers	186
Financial Analysts	182
Bookkeeping, Accounting, and Auditing Clerks	181
Insurance Sales Agents	174
Auditors	172
Medical Assistants	170
Security Guards	167
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	159
Medical and Clinical Laboratory Technicians	157
Pharmacists	157
Medical Records and Health Information Technicians	153
Nurse Practitioners	146
Lawyers	138
First-Line Supervisors of Office and Administrative Support Workers	137
Physical Therapists	137
Pharmacy Technicians	133
Physicians and Surgeons, All Other	133
Network and Computer Systems Administrators	129
Software Quality Assurance Engineers and Testers	128

Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Analysis Continued

Sales representatives (1,315 postings) passed software developers (1,139) taking second place, while truck drivers (1,020) and managers (831) retaining the fourth and fifth-most postings, respectively.



# Business & Finance

## Introduction

### Business & Finance

Jobs in the business and finance occupation group can be found in nearly every type of business and industry. These workers need strong mathematical and accounting abilities along with project management and planning skills. Workers in this occupation group are in high demand in southeast Michigan.

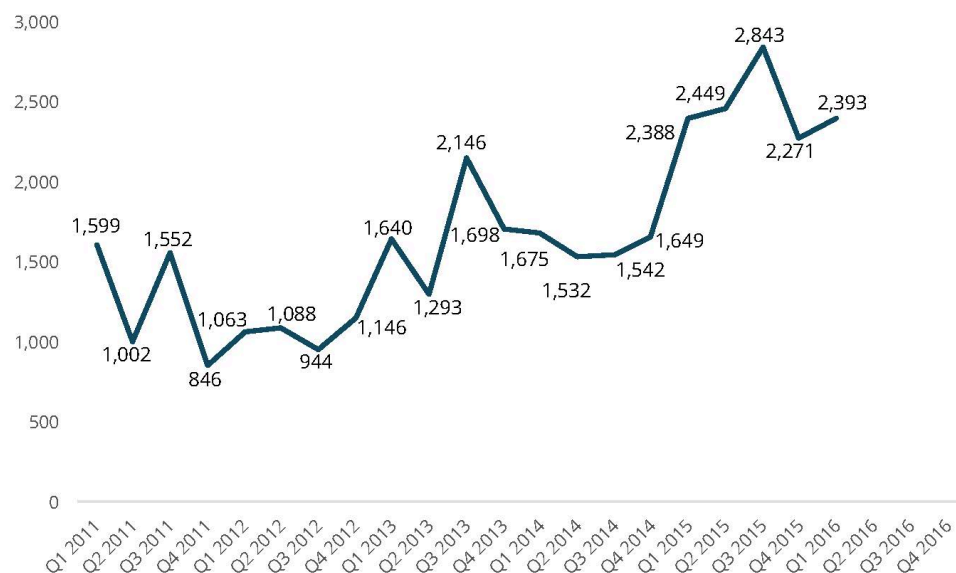
### Postings Over Time

After a drop in online job postings from Q3 to Q4 2015, Q1 2016 has seen an increase of 5.4% (122 ads) following the overall positive trend since 2011. Although it is small, online job postings in Q1 2016 are also higher (0.2%) compared to one year ago, Q1 2015.

### Employment Over Time

Although only Q1 has passed in 2016, employment growth has continued for Business and Finance related jobs in the City of Detroit since 2010. In 2010, only 13,147 workers were employed in Business and Finance jobs, whereas in Q1 2016, employment reached 14,628, an increase of just over 11%.

## Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



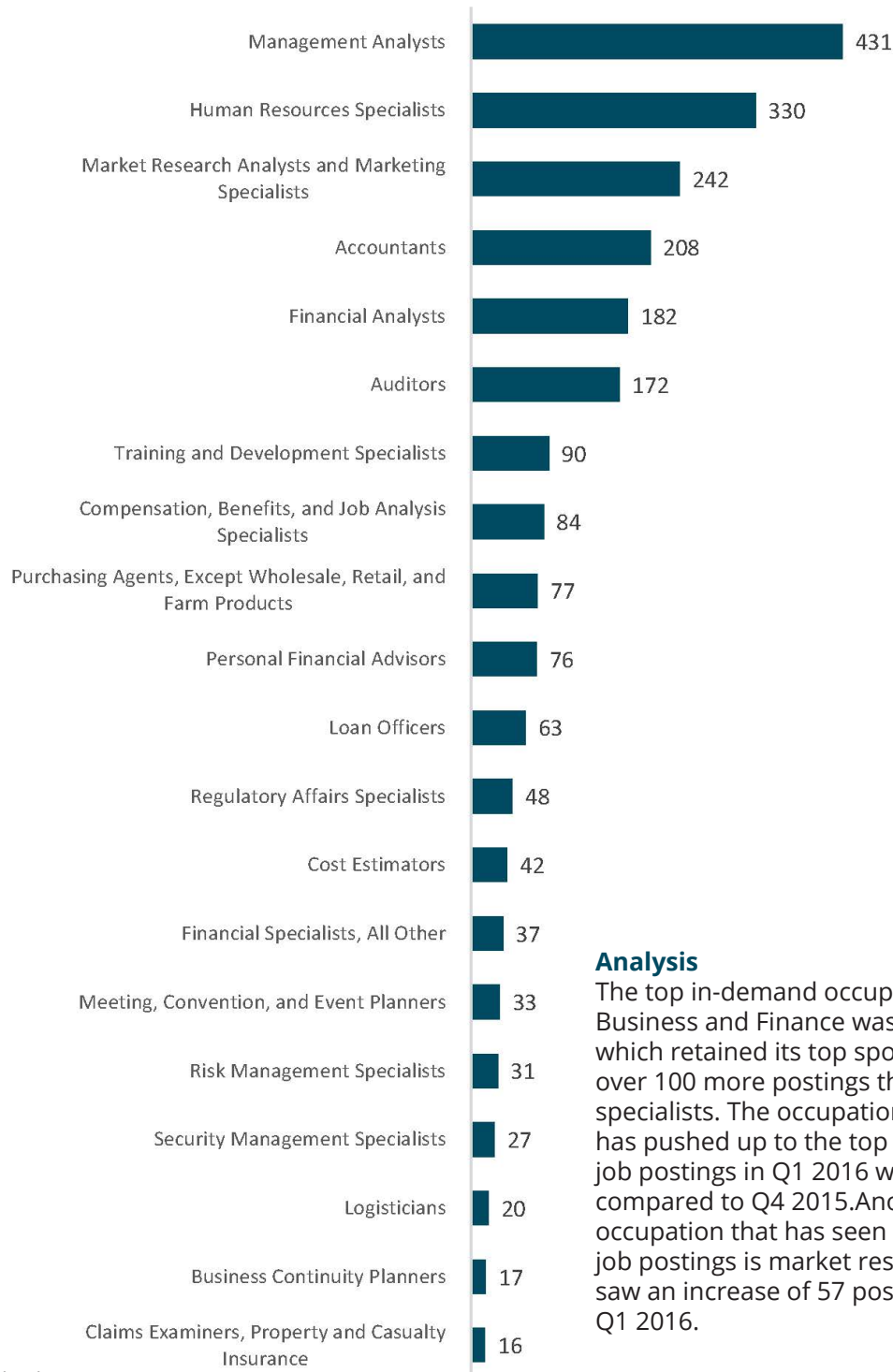
Security management specialists is new to the top-20 jobs in demand



Employment over time has been steadily increasing since 2010, making its way back to 2001 levels

### Business & Finance Top Jobs

Quarter 1 2016



#### Analysis

The top in-demand occupation related to Business and Finance was management analysts, which retained its top spot from Q4 2015 with over 100 more postings than human resources specialists. The occupation of purchasing agents has pushed up to the top ten most in-demand job postings in Q1 2016 with a 57% increase compared to Q4 2015. Another notable occupation that has seen an increase in online job postings is market research analysts, which saw an increase of 57 postings from Q4 2015 to Q1 2016.



Within programs of study, Engineering was sixth most popular program.

%

84% of job postings with specified educational attainment levels require a Bachelor's

### Business & Finance Educational Attainment & Experience Required

Of the 1,690 Business and Finance group job postings that specified a desired experience level during Q1 2016, 84% (1,425) required a bachelor's degree.

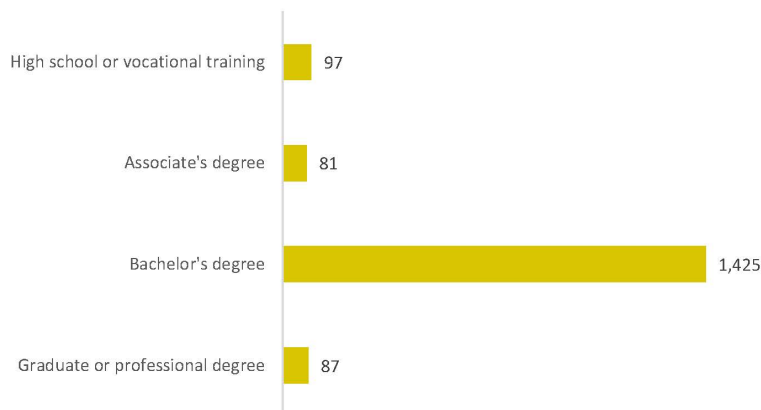
The three remaining educational attainment levels are fairly balanced with high school or vocational training wanted for 97 of the overall postings, associate's degree's wanted for 81 of overall postings, and graduate or professional degree's wanted for 87 of overall postings.

The majority of job postings also call for three to five years of experience (810 in Q1 2016) are most likely for management or human resources roles in Business and Finance and will require advanced educational attainment.

### Areas of Study in-Demand Q1 2016

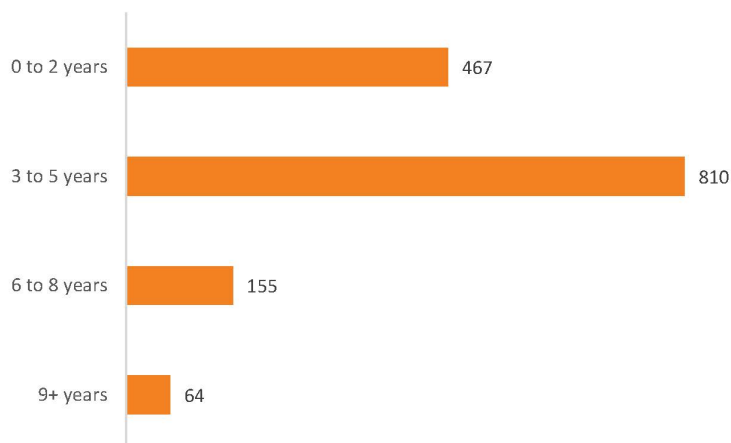
- Accounting
- Business Administration and Management, General
- Finance, General
- Computer Science
- Economics, General

### Minimum Educational Attainment Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Experience Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network



Business continuity planners is new to the top-20 jobs in demand

%

Certified public accountant (CPA), is specified in 275 job postings

## Business & Finance in-Demand Skills Q1 2016

The occupations in the Business and Finance group require various high-level technical skills. Many of the traditional skills like accounting, budgeting, project management, and business analysis, among others, are still present in the job postings. Though it is not the highest posted, one interesting skill to note is social media on Q1 2016's skills list, demonstrating the change many employers are continuing to make to have an increased online presence. While technical skills are important as ever, they also need to be paired with more foundational skills that are of utmost importance to succeeding in a workplace. Many foundational skills include the ability to communicate, problem solve, plan, and have creativity/analytical ability. These types of skills are essential for Business and Finance workers so that they can work effectively with peers in and outside of their respective organizations.

### Technical in-Demand Skills

- Accounting/Budgeting/Financial Analysis
- Customer Service/Building Relationships
- Marketing/Social Media
- Project Management/Staff Management/Supervisory Skills
- Business Process/Process Improvement

### Foundational In-Demand Skills

- Communication Skills/Team Work-Collaboration/Building Effective Relationships/Time Management
- Troubleshooting/Problem Solving
- Multi-Tasking
- Organizational Skills/Supervisory Skills/Leadership/Project Management
- Microsoft Office

### Job Type

- Temporary: 2.3%
- Full-time: 43.5%
- Part-time: 3.5%

### Certifications In-Demand

- Certified public accountant (cpa)
- Certified information systems auditor (cisa)
- Project management certification (e.g. pmp)
- Institute of internal auditors (iia)
- Certified information systems security professional (cissp)



Of provided job postings, only 11% have salaries lower than \$35,000 per year



More postings require 3-5 years of experience than the other three options (0-2, 6-8, 9+) added together

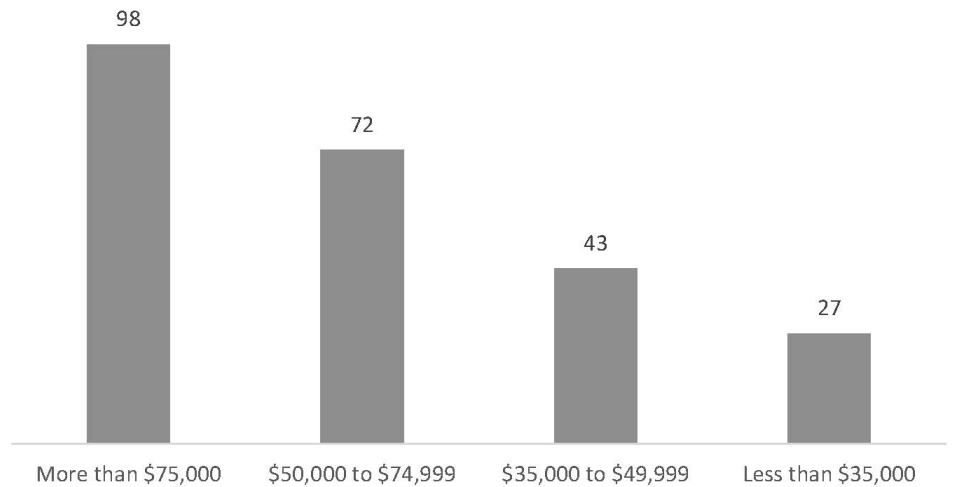
## Business & Finance

### Wages

The majority of advertised salaries in the Business and Finance group in Q1 2016 were above \$35,000 per year, with only 27 of the 240 postings that specified salaries earning less than \$35,000 per year. Higher wages are common in this group as post-secondary training increases, evident by the lowest median-level wage being over \$50,000 per year.

## Advertised Salaries

Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
13-1111	Management Analysts	\$21.43	\$29.24	\$37.26	\$47.50	\$57.79
13-1071	Human Resources Specialists	\$16.03	\$20.96	\$27.29	\$35.15	\$46.52
13-1161	Market Research Analysts and Marketing Specialists	\$20.63	\$27.03	\$37.55	\$50.75	\$60.50
13-2011	Accountants	\$20.14	\$25.04	\$32.57	\$42.30	\$54.03
13-2051	Financial Analysts	\$24.37	\$29.53	\$38.36	\$48.53	\$58.48
13-2011	Auditors	\$20.14	\$25.04	\$32.57	\$42.30	\$54.03
13-1151	Training and Development Specialists	\$16.02	\$19.87	\$25.67	\$34.58	\$44.46
13-1141	Compensation, Benefits, and Job Analysis Specialists	\$20.73	\$24.28	\$30.14	\$38.24	\$49.62
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$19.66	\$23.66	\$32.72	\$46.82	\$56.63
13-2052	Personal Financial Advisors	\$14.73	\$20.33	\$29.25	\$61.06	\$75.86

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



## Introduction

### Energy

Energy-related occupations encompass jobs in engineering, science, mining, and extraction. Workers in this field have a range of skills all related to keeping businesses and homes powered. Energy companies employ workers in a variety of occupations, many of which are also included in other WIN occupation groups. Data referenced in this section pertain only to job postings from energy-related businesses.

### Postings Over Time

Although past trends have seen increases in job postings from Q4 to Q1 each year, online job ads for occupations related to Energy were only slightly lower in Q1 2016 compared to Q4 2015 with a drop of 10 postings. Even with this small drop, it is important to note that Q1 2016 has seen a 48% (35 ad) increase in online job postings compared to Q1 2015, a year ago.

### Employment Over Time

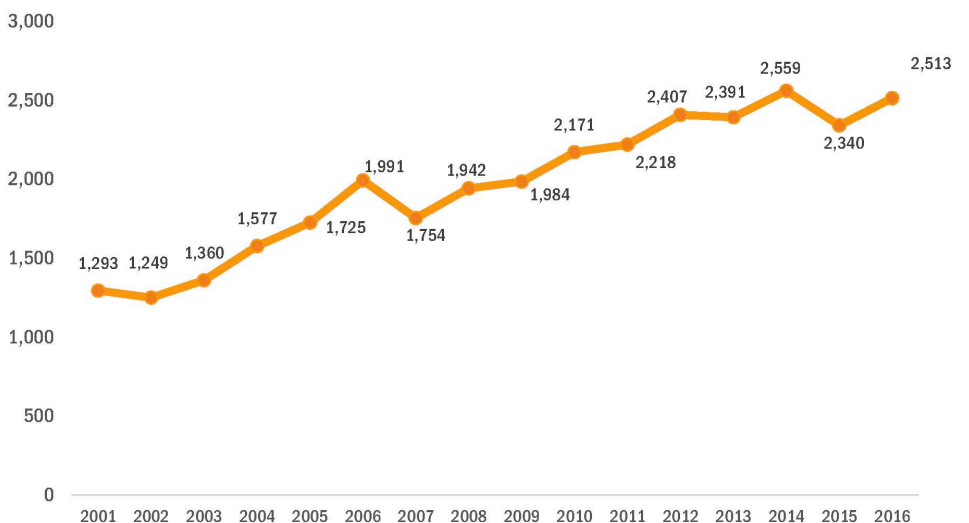
Although only Q1 has passed in 2016, the employment for Energy-related jobs in the City of Detroit has continued its overall upward trend since the decline seen in 2007. In 2007, only 1,754 workers were employed in Energy, whereas in Q1 2016, employment reached 2,513, an increase of almost 43%.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

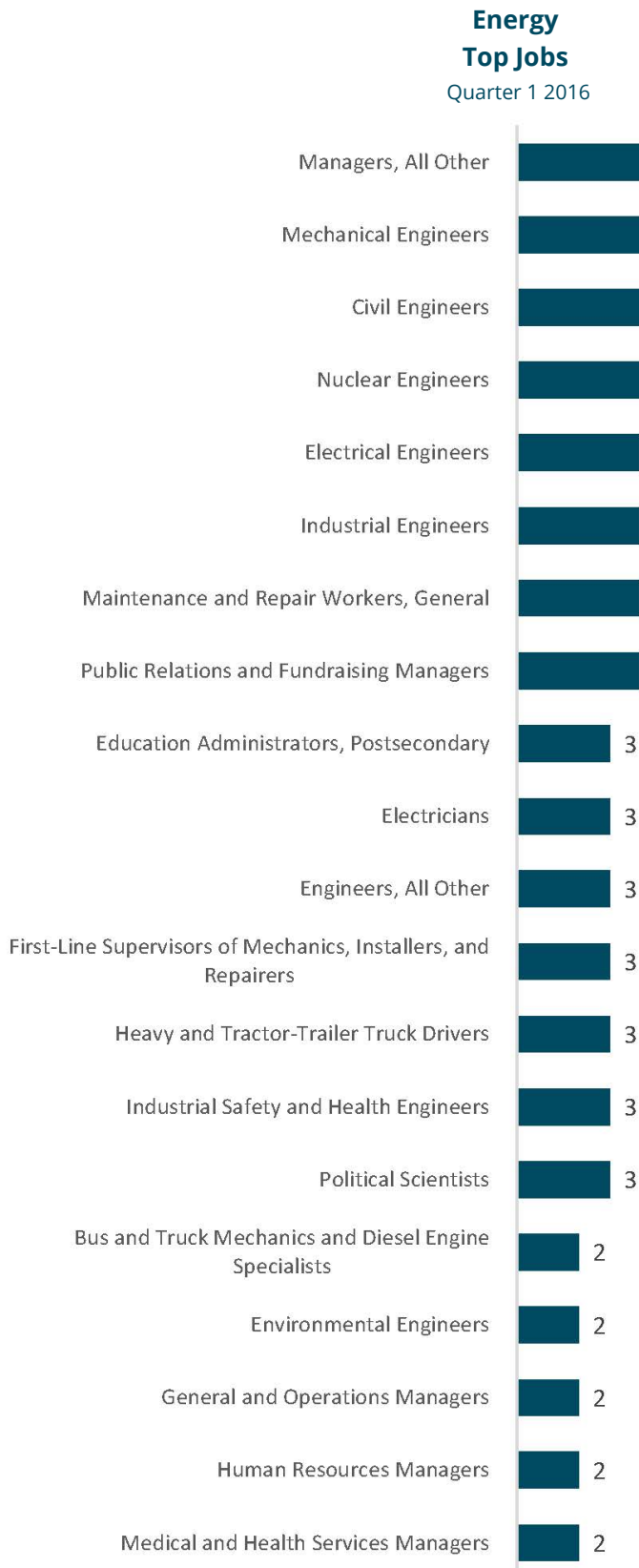




Industrial engineers moved up to the 6th most popular posting



Of the 87 postings with specified educational attainment levels, one required a graduate/professional degree



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Analysis

Managers remained the top in-demand occupation for the City of Detroit from Q4 2015 to Q1 2016, beating out mechanical, civil, nuclear, electrical, and industrial engineers. Though mechanical engineers went from being outside of the top 20 to taking the second most in-demand occupation, representing just over 7.5% of the overall postings (118). Employer demand for energy related occupations is further dominated by engineers in general, which represent 44.5% of the top 20 in-demand occupations.



Mechanical engineers was not in the top-20 in demand occupations in Q4 2015

%

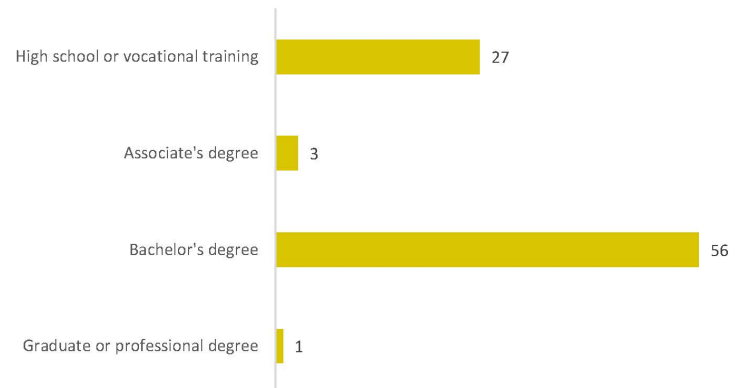
Of the postings that specified experience levels, 29 asked for 3-5 years of experience

### Energy Educational Attainment & Experience Required

Of the 52 Energy group job postings that specified a desired experience level during Q1 2016, 56% were available to workers with less than 5 years of experience. The next highest level of experience specified by the available postings was between 6 to 8 years.

With almost half of the top 20 in-demand job postings being engineering occupations, it is easy to see why 65% of postings specify attainment of a bachelor's degree, with the next highest specification being for high school or vocational training at 31% of the postings.

### Minimum Educational Attainment Required Q1 2016

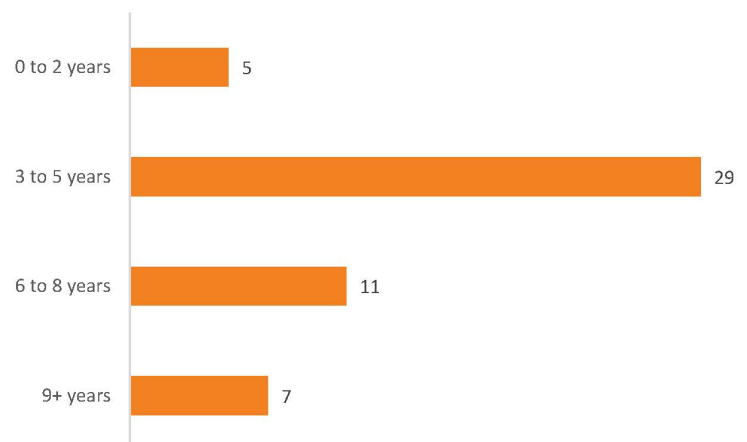


Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Areas of Study in-Demand Q1 2016

- Engineering
- Engineering technology
- Mechanical engineering
- Business administration and management
- Electrical and electronic engineering technologies/technicians

### Experience Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network



A certification by the American Society of Mechanical Engineers is the 6th most popular certification

%

Of the 59 postings with specified areas of study, Communication is the 6th most popular program

## Energy in-Demand Skills Q1 2016

While the occupations in the Energy group require several high-level technical skills, many traditional skills like contract management, repair, technical support and inspection are still present in the job postings. The increased demand for the various types of engineers in Energy occupations in Detroit, is demonstrated in the posting for skillsets like engineering support, electrical systems, and industrial engineering industry expertise among others. While workers in the Energy group now need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring workers in the Energy group often post employability skills like problem solving, communication, and project management in their advertisements. These types of skills are crucial for the Energy group workers so that they can collaborate effectively and especially in high-demand supervisor roles.

### Technical in-Demand Skills

- Cost Estimation
- Engineering Support
- Industrial Engineering
- Supervisory Skills/Project Management/Budgeting
- Nuclear Energy

### Foundational In-Demand Skills

- Communication Skills/Team Work-Collaboration/Building Effective Relationships
- Troubleshooting/Preventative Maintenance/Problem Solving
- Multi-Tasking/Prioritizing
- Organizational Skills/Leadership/Leadership/Project Management/Decision Making
- Microsoft Office

### Job Type

- Temporary: data not available
- Full-time: 33%
- Part-time: data not available

### Certifications In-Demand

- Commercial driver's license
- Cdl class b
- Auditor certification
- Certified health education specialist
- Air brake certified



All top-ten Energy-related occupations earn more than the living wage of \$15 per hour



Most specified postings advertised a salary of over \$75,000 per year

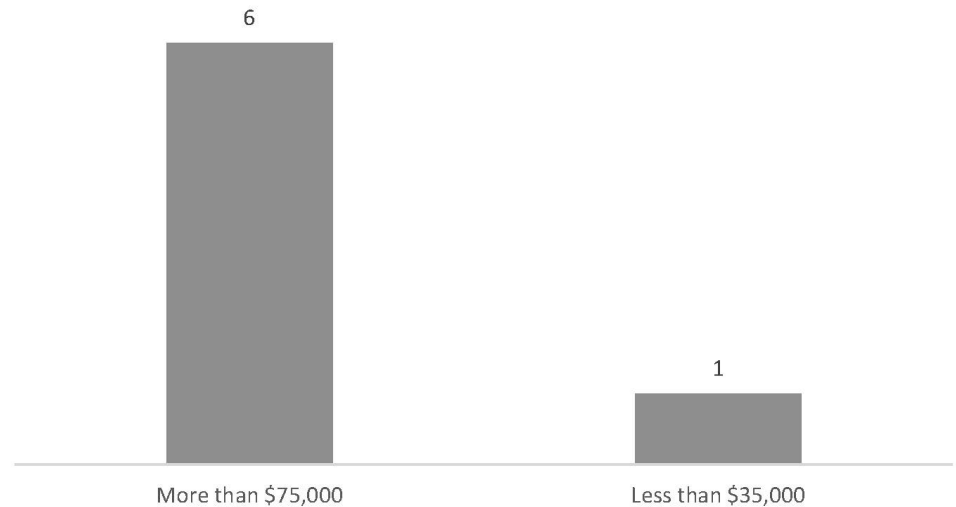
## Energy

### Wages

Though the majority of advertised salaries in the Energy group in Q1 2016 are not specified (94%), those that are show earnings of more than \$75,000. Maintenance and repair workers seem to be the outlier in terms of wages in 2015 making just over \$21,000 per year in an entry-level position, while the next lowest entry-level wage is almost double for electricians.

### Advertised Salaries

Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
11-9199	Managers, All Other	\$28.09	\$34.81	\$44.94	\$56.00	\$70.17
17-2141	Mechanical Engineers	\$30.78	\$37.88	\$45.75	\$54.15	\$60.64
17-2051	Civil Engineers	\$23.54	\$27.30	\$32.96	\$39.40	\$47.82
17-2161	Nuclear Engineers	\$38.37	\$47.01	\$55.04	\$60.67	\$67.92
17-2071	Electrical Engineers	\$30.75	\$36.50	\$43.99	\$51.85	\$58.50
17-2112	Industrial Engineers	\$30.19	\$35.22	\$42.19	\$49.62	\$57.44
49-9071	Maintenance and Repair Workers, General	\$10.12	\$13.06	\$18.24	\$23.35	\$28.58
11-2031	Public Relations and Fundraising Managers	\$24.67	\$36.29	\$52.41	\$72.54	\$93.01
11-9033	Education Administrators, Postsecondary	\$21.56	\$28.33	\$39.77	\$58.33	\$82.75
47-2111	Electricians	\$20.03	\$26.54	\$32.00	\$36.27	\$47.85

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

## Introduction

### Health Care

WIN's health care occupation group includes jobs related to health care support and practitioners. Employment in this group has been consistently growing, more health care workers needed to care for Michigan's aging population and in response to regulatory and other changes. Registered nurses are routinely the most in-demand job in this group.

### Online Job Postings

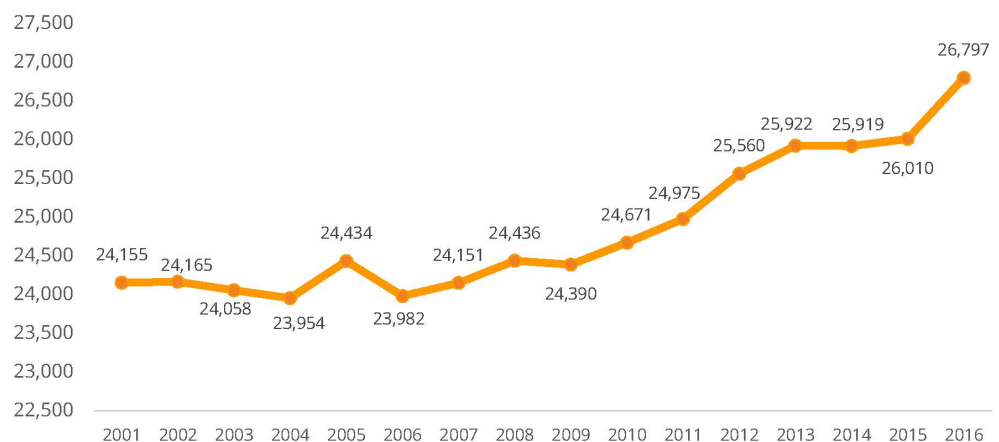


### Postings Over Time

Online job ads for occupations related to Health Care were up 7% to 5,228 during Q1 2016, compared to 4,908 during Q4 2015. This level of postings in Q1 2016 was also 27% higher than the 1,118 online postings for Health Care occupations in Detroit in Q1 2015, a year ago. This follows the general positive trend seen in Health Care related postings during the transition of Q4 to Q1 over the past few years.

Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

### Employment Over Time

2015 marked the sixth consecutive year of employment growth for Health Care jobs in the City of Detroit since the depths of the Great Recession in 2009. This pattern has continued into Q1 2016 as well. In 2009, only 24,390 workers were employed in Health Care jobs, and in Q1 2016, employment reached 26,797, a new high.

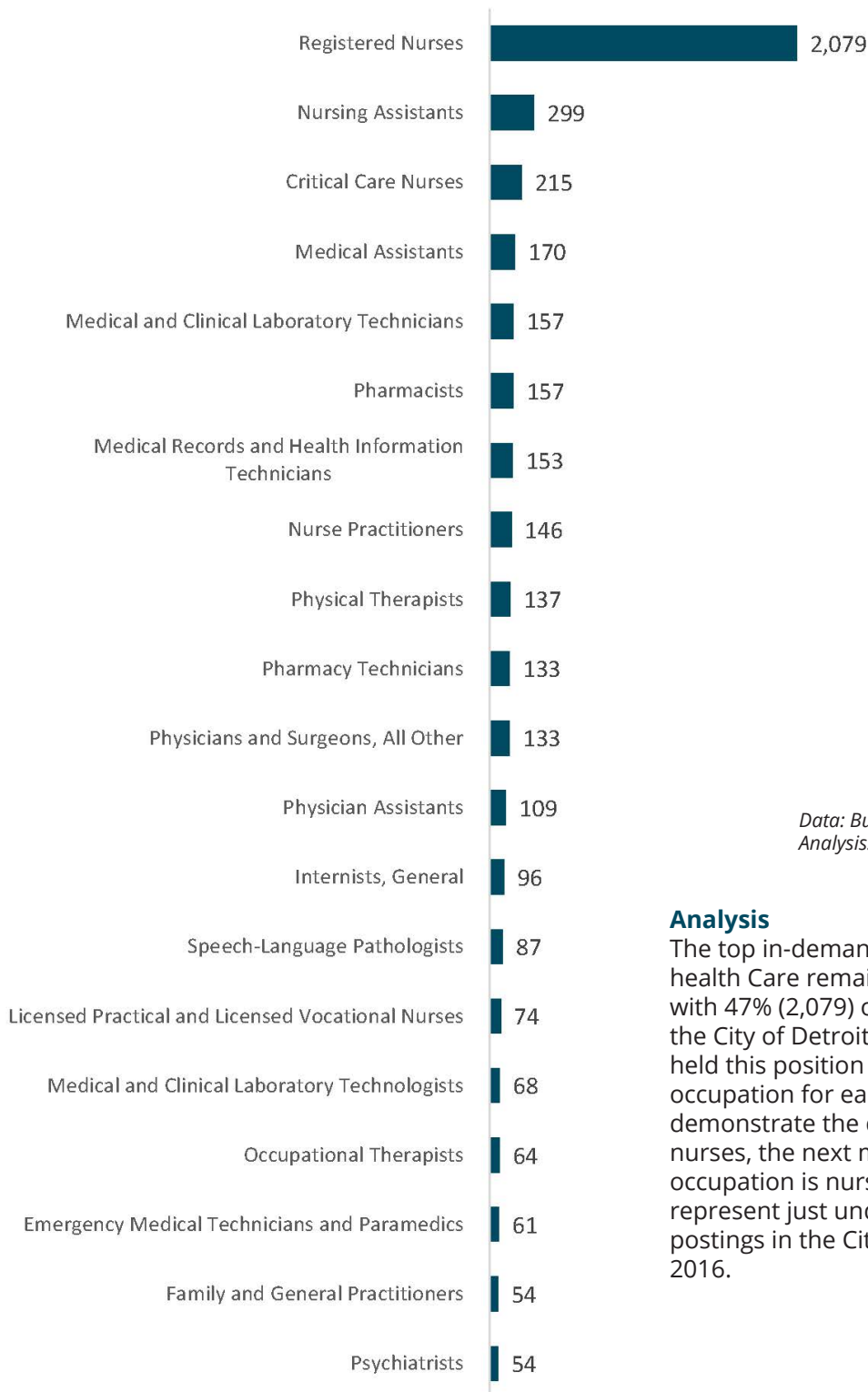


Of the top 20 in-demand jobs in Q1 2016, there are three new occupations



Online job postings have reached an all-time high in Q1 2016 at 5,228

### Health Care Top Jobs Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

#### Analysis

The top in-demand occupation related to health Care remains registered nurses, with 47% (2,079) of online job postings in the City of Detroit during Q1 2016. It has held this position over other in-demand occupation for each quarter since 2011. To demonstrate the demand for registered nurses, the next most in-demand occupation is nursing assistants, which represent just under 7% of online job postings in the City of Detroit during Q1 2016.



Other than a drop in employment from 2005 to 2006, employment has risen every subsequent year

%

Graduate and professional degrees have the least amount of job postings

### Health Care Educational Attainment & Experience Required

Of the 2,433 Health Care group job postings that specified a desired experience level during Q1 2016, just under 77% were available to workers with less than two years of experience.

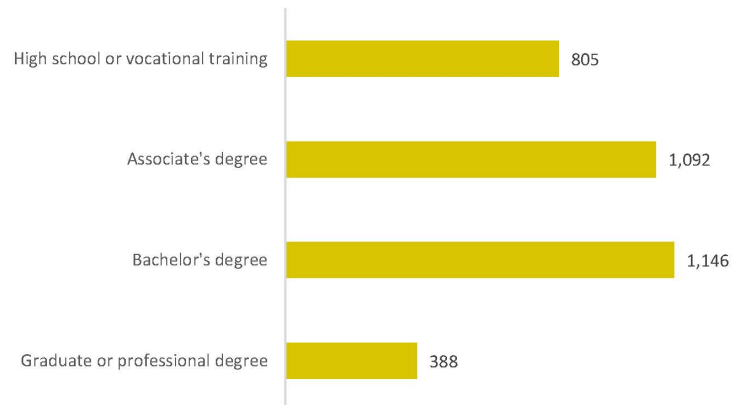
Positions that specified at least 3-5 of experience were next, representing just under 22% of the postings.

Unlike the Business and Finance group and the Energy group, levels of educational attainment are more balanced between positions wanting a bachelor's degree (1,146), an associate's degree (1,092), and high school or vocational training (805).

### Areas of Study in-Demand Q1 2016

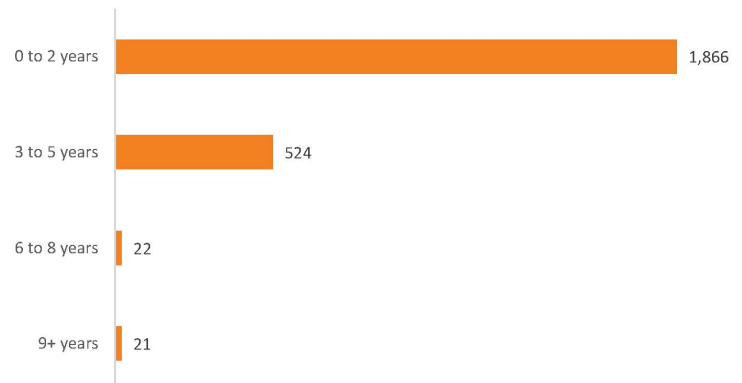
- Nursing Science
- Physical therapy/therapist
- Business administration and management, general
- Health professions and related programs
- Occupational therapy/therapist

### Minimum Educational Attainment Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Experience Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network



Only 21 postings out of the 2,433 that specify experience levels, ask for 9+ years of experience

%

Over 71% of postings that specify certifications, ask for the registered nurse certification

## Health Care in-Demand Skills Q1 2016

The occupations in the Health Care group require a wide array of high-level technical skills. Traditional skills like patient care, CPR, and therapy are still present in Health Care job postings. The continuous demand for registered nurses in Health Care occupations in the City of Detroit is demonstrated in the posting for skill sets like treatment planning, patient evaluation, patient assistance, and critical care. While Health Care workers now need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring Health Care workers often post employability skills like team work and collaboration, communication, and problem solving in their advertisements. These types of skills are crucial for Skilled Trades so that they can collaborate effectively and especially in high-demand supervisor rolls.

### Technical in-Demand Skills

- Patient Care/Patient Monitoring/Patient Evaluation
- Cardiopulmonary Resuscitation (CPR)/Advanced Cardiac Life Support (ACLS)
- Surgery
- Case Management/Staff Management
- Rehabilitation

### Foundational In-Demand Skills

- Team work/Building Effective Relationships/Customer Service
- Supervisory Skills/Project Management/Planning/Organizational Skills
- Problem Solving/Troubleshooting
- Physical Demand
- Microsoft Word

### Job Type

- Temporary: 7%
- Full-time: 54.5%
- Part-time: 8%

### Certifications In-Demand

- Registered nurse
- Basic cardiac life support certification
- Project American heart association certificate
- First aid CPR AED
- Emergency medical technician (EMT)





The 6th-10th most specified technical skills all have to do with patient care



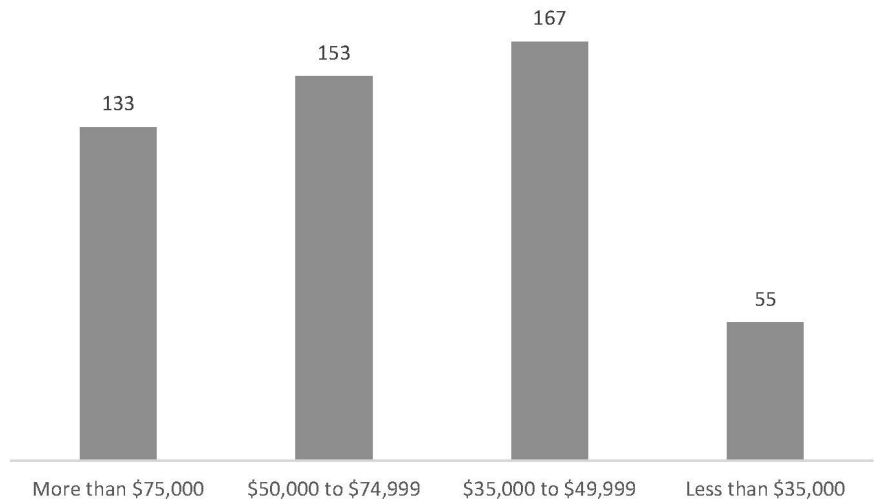
The lowest yearly wage at median-level earnings within the top 10 occupations in 2015 was \$27,664

## Health Care Wages

The majority of advertised salaries in the Health Care group in Q1 2016 were above \$35,000 per year, with only 11% of postings listing a salary of less than \$35,000 per year. Of the 5,228 postings, 4,720 did not specify a salary. With the majority of salaries being above \$35,000, the probability that most of the available postings are for positions requiring a higher level of educational attainment is higher. According to 2015 data, with post-secondary training and continued experience, even the lowest wage for an entry-level position (pharmacy technicians - \$18,845/year) can greatly increase as seen by the 90th percentile wage data for the same position, which is more than double.

## Advertised Salaries

Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
29-1141	Registered Nurses	\$25.32	\$28.40	\$32.70	\$36.57	\$42.94
31-1014	Nursing Assistants	\$10.61	\$12.14	\$13.47	\$14.83	\$17.26
29-1141	Critical Care Nurses	\$25.32	\$28.40	\$32.70	\$36.57	\$42.94
31-9092	Medical Assistants	\$10.08	\$11.59	\$13.30	\$15.21	\$17.93
29-2012	Medical and Clinical Laboratory Technicians	\$12.75	\$14.21	\$16.97	\$21.67	\$28.33
29-1051	Pharmacists	\$33.34	\$47.69	\$53.95	\$59.56	\$69.99
29-2071	Medical Records and Health Information Technicians	\$11.47	\$13.25	\$16.13	\$20.06	\$25.00
29-1171	Nurse Practitioners	\$29.82	\$38.83	\$44.71	\$52.87	\$59.63
29-1123	Physical Therapists	\$27.63	\$33.97	\$40.41	\$46.57	\$60.86
29-2052	Pharmacy Technicians	\$9.06	\$12.25	\$15.18	\$17.65	\$20.12

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

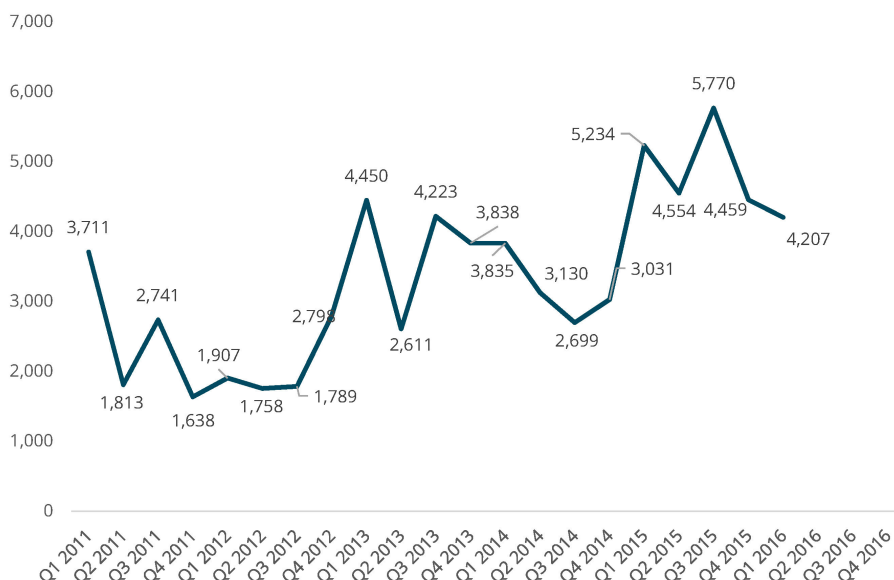
# Information Technology (IT)

## Introduction

### Information Technology (IT)

Information technology jobs include occupations that are associated with entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services. While the information technology group does not currently meet the employment levels of the others, it is quickly growing.

### Online Job Postings



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

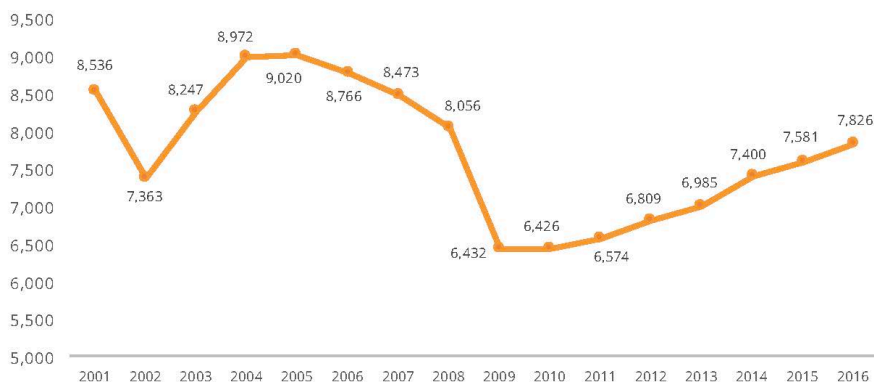
### Postings Over Time

Online job ads for occupations related to IT were up 6% to 4,207 during Q1 2016, compared to 4,459 during Q4 2015. Though this level of postings is 9% higher than the 3,835 online postings for IT-related occupations in the City of Detroit in Q1 2014, two years ago.

### Employment Over Time

As seen in the IT occupation groups in other counties, as well as different occupation groups, 2015 marked the sixth consecutive year of increased employment for IT jobs in the City of Detroit. This pattern has continued into Q1 2016. Since the depths of the Great Recession in 2009, only 6,432 Detroit workers were employed in IT jobs, and in Q1 2016, employment reached nearly 7,826, a growth of over 21%.

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



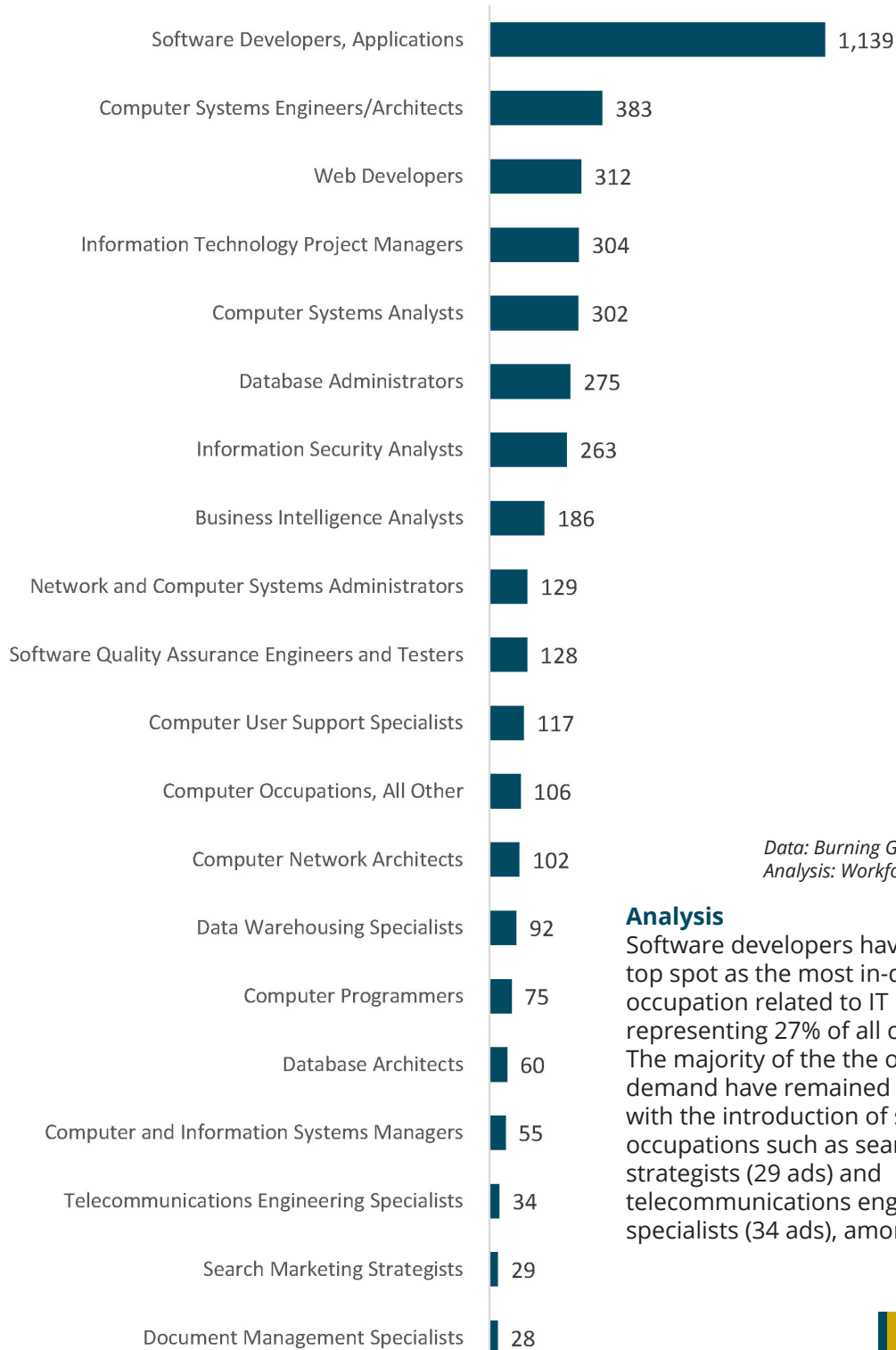
Online job postings in IT have kept their irregular pattern of increases and decreases since Q1 2011



Employment has seen fairly linear growth from 2009 through Q1 2016

### Information Technology (IT) Top Jobs

Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

#### Analysis

Software developers have retained their top spot as the most in-demand occupation related to IT in Q1 2016, representing 27% of all online postings. The majority of the the other top 20 in-demand have remained similar to Q4 2015 with the introduction of some new occupations such as search marketing strategists (29 ads) and telecommunications engineering specialists (34 ads), among others.



Only three of the top 20 in-demand jobs were new in Q1 2016, compared to Q4 2015

%

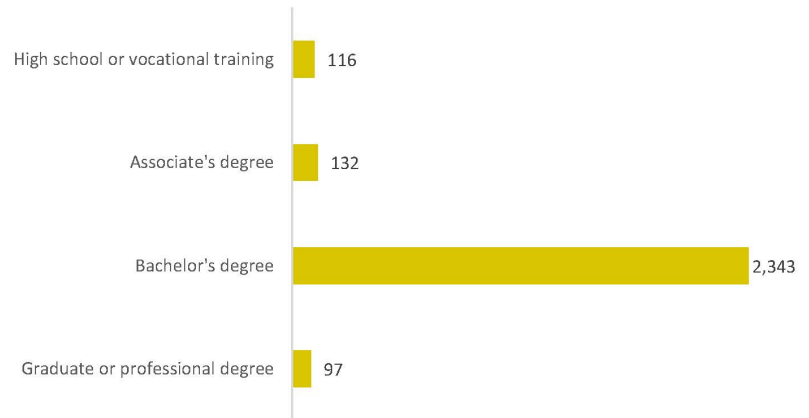
The occupation of software developers has more postings than the next three occupations combined

### Information Technology (IT) Educational Attainment & Experience Required

Of the 2,808 IT group job postings that specified a desired experience level during Q1 2016, 53% were available to workers with 3 to 5 years of experience.

Out of the 4,207 total postings, 1,399 did not specify a required level of experience. Job postings that require more than 5 years of experience (839 in Q1 2016) are most likely for supervisor or management roles in IT and will require advanced educational attainment, possibly a bachelor's degree, as specified in 2,343 job postings.

### Minimum Educational Attainment Required Q1 2016

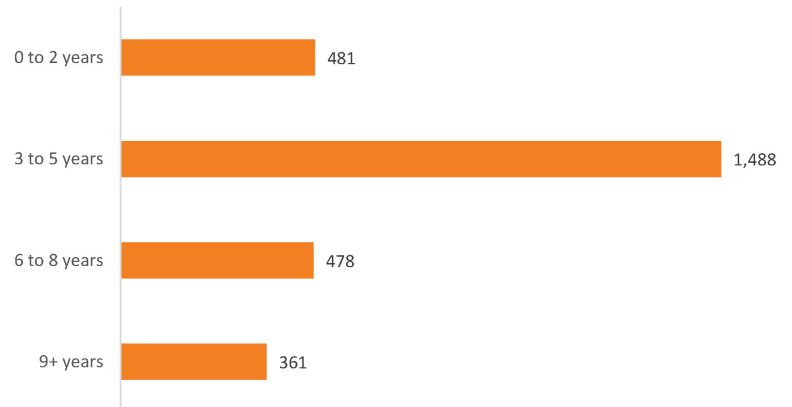


Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Areas of Study in-Demand Q1 2016

- Computer science
- Engineering, general
- Business administration and management, general
- Management information systems, general
- Information technology

### Experience Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network



The 6th most specified certification in job postings was IT infrastructure library

%

9% of postings with specified education levels only require high school or vocational training, or an Associate's

## Information Technology (IT) in-Demand Skills Q1 2016

The occupations in the IT group require a wide array of high-level technical skills. Advanced technical skills like SQL and software development, among others, appear on Q1 2016's skills list. While IT workers continue to need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring IT workers stress the importance of employability skills like communication, problem solving, team work, and creativity/analytical ability in their advertisements. These types of skills are crucial for IT workers so that they can collaborate effectively and especially in high-demand supervisory rolls.

### Technical in-Demand Skills

- SQL/JAVA
- Software Engineering/Information Systems/Systems Development Life Cycle (SDLC)
- Data Analysis/Systems Analysis
- Budgeting
- Customer Service/Technical Support

### Foundational In-Demand Skills

- Communication Skills/Team Work-Collaboration/Building Effective Relationships/Time Management
- Troubleshooting/Preventative Maintenance/Problem Solving/Quality Assurance and Control
- Writing
- Organizational Skills/Supervisory Skills/Leadership/Project Management/Decision Making/Leadership
- Microsoft Office

### Job Type

- Temporary: 4.2%
- Full-time: 41.3%
- Part-time: 3%

### Certifications In-Demand

- Certified information systems security professional (cissp)
- Project management certification (e.g. pmp)
- Certified information systems auditor (cisa)
- Certified information security manager (cism)
- Sans/giac certification



Postings that offer more than \$75,000 yearly is about triple the combined number of postings for other categories

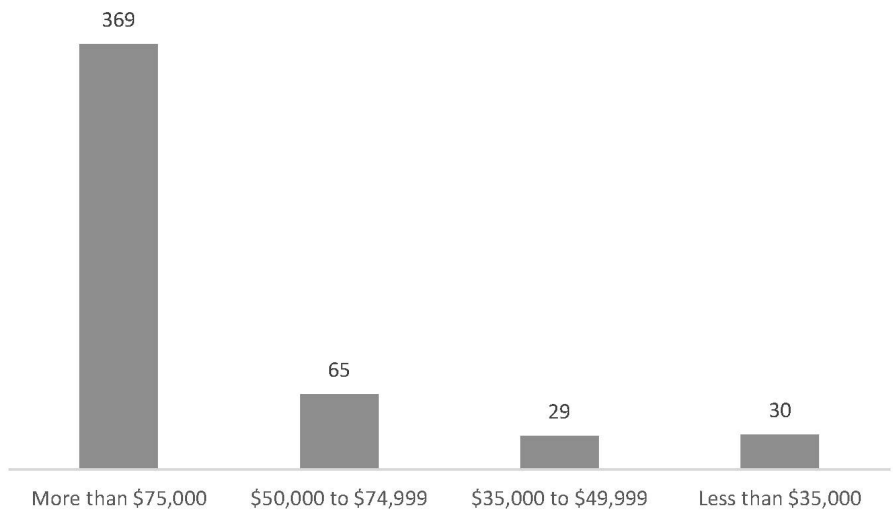


The lowest entry-level salary in IT for 2015 was over \$36,000 per year

## Information Technology (IT) Wages

75% of advertised salaries for IT occupations were above \$75,000 per year, and only 6% of posted salaries were below \$35,000 per year. The high salaries available coupled with the majority of advertised experience levels being between 3 to 5 years, makes IT a rewarding field to go into in the City of Detroit. According to 2015 BLS data, an entry-level web developer can make over \$36,000 per year. Individuals employed in this same occupation can make almost \$92,000 in the 90th percentile.

## Advertised Salaries Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1132	Software Developers, Applications	\$28.67	\$37.52	\$46.28	\$55.91	\$65.26
15-1199	Computer Systems Engineers/Architects	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24
15-1134	Web Developers	\$17.61	\$22.03	\$30.41	\$38.49	\$44.23
15-1199	Information Technology Project Managers	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24
15-1121	Computer Systems Analysts	\$29.75	\$35.61	\$42.91	\$51.78	\$60.85
15-1141	Database Administrators	\$25.96	\$35.46	\$44.91	\$52.95	\$58.47
15-1122	Information Security Analysts	\$22.95	\$28.61	\$38.48	\$48.88	\$58.26
15-1199	Business Intelligence Analysts	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24
15-1142	Network and Computer Systems Administrators	\$21.84	\$27.95	\$37.57	\$45.58	\$53.28
15-1199	Software Quality Assurance Engineers and Testers	\$23.48	\$31.56	\$41.17	\$53.26	\$61.24

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network



# Skilled Trades & Technicians (Manufacturing Focused)

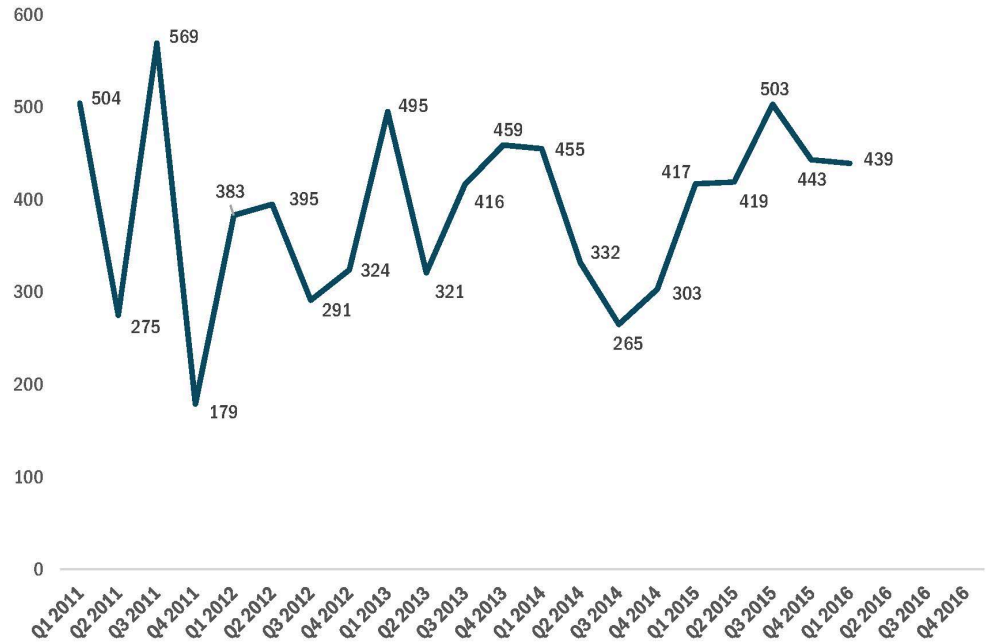
## Introduction

### Skilled Trades & Technicians

WIN's technicians/skilled trades category includes jobs related to advanced manufacturing. Southeast Michigan has more demand for skilled- trades labor, such as CNC machinists and welders, than almost anywhere else in the country.

NOTE: Skilled trades related to construction and assembly are not included in this cluster, as the focus is on advanced manufacturing only.

### Online Job Postings



### Postings Over Time

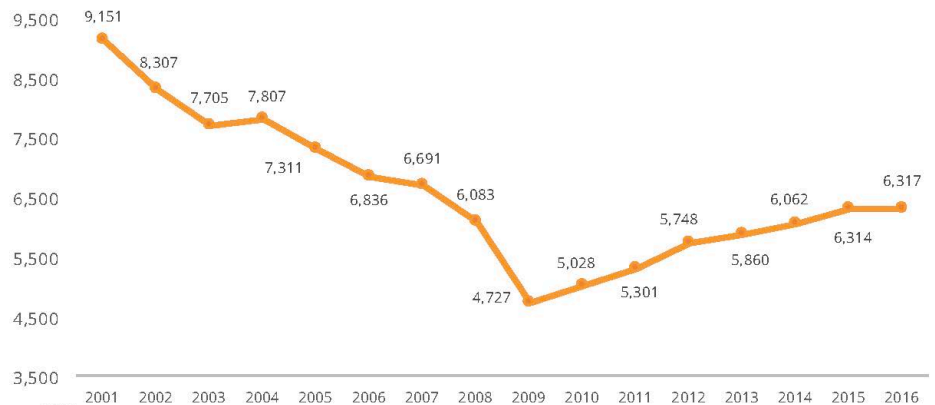
Online job postings for Skilled Trades saw a very slight decrease of four postings from 443 during Q4 2015 to 439 Q1 2016. But when compared to Q1 2015, one year ago, Q1 2016 showed a 5% (22) increase in postings. This last quarter still showed a positive trend since the low point of 179 postings in Q4 2011.

Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Employment Over Time

2015 marked another year of employment growth for Skilled Trades jobs in the City of Detroit since the low point of the Great Recession in 2009. In 2009, only 4,727 Detroit workers were employed in Skilled Trades jobs, and in Q1 2016, employment reached 6,317.

### Employment Over Time



Data: EMSI, BLS  
Analysis: Workforce Intelligence Network





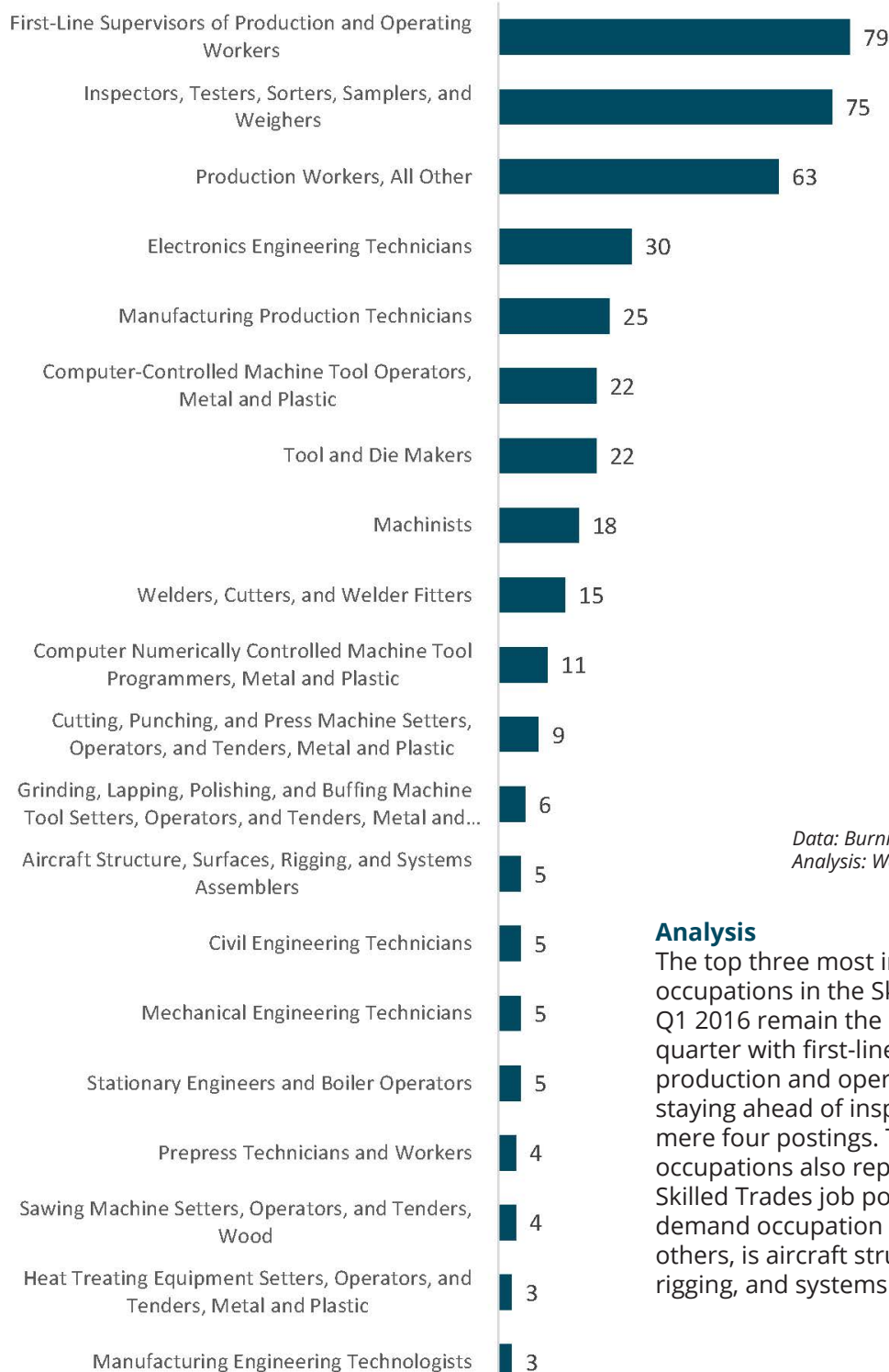
Q1 2016 saw 22 more job postings compared to Q1 2015, one year ago



Starting in 2009, there has been a slight rise in year-to-year employment up to Q1 2016

## Skilled Trades & Technicians Top Jobs

Quarter 1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Analysis

The top three most in-demand occupations in the Skilled Trades group in Q1 2016 remain the same as the previous quarter with first-line supervisors of production and operating workers (79 ads) staying ahead of inspectors (75 ads) by a mere four postings. The top three occupations also represent 49.4% of all Skilled Trades job postings. One new in-demand occupation to the top 20, among others, is aircraft structure, surfaces, rigging, and systems assemblers.





Q1 2016 saw 6 new occupations enter the top 20 in-demand occupations list

%

Postings for high school or vocational training are about equal to training for an Associate's and Bachelor's degree

### Skilled Trades & Technicians Educational Attainment & Experience Required

Of the 222 Skilled Trades group job postings that specified a desired experience level during Q1 2016, 87% were available to workers with less than 5 years of experience.

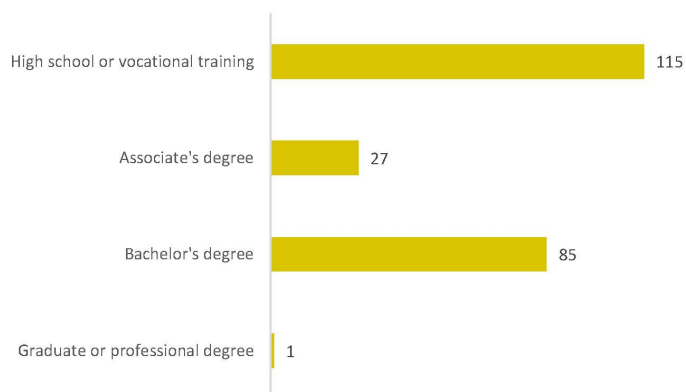
Entry-level Skilled Trades positions are available to Michigan workers that are willing to undertake short-term, post-secondary training in applicable skills, like mathematics, welding, or programming, which will qualify them for one of the 92 jobs requiring less than two-years of training.

Job postings that require more than 5 years of experience (29 in Q1 2016) are most likely for supervisor or management roles in the Skilled Trades and will require advanced educational attainment, possibly a bachelor's degree, as specified in 85 job postings.

### Areas of Study in-Demand Q1 2016

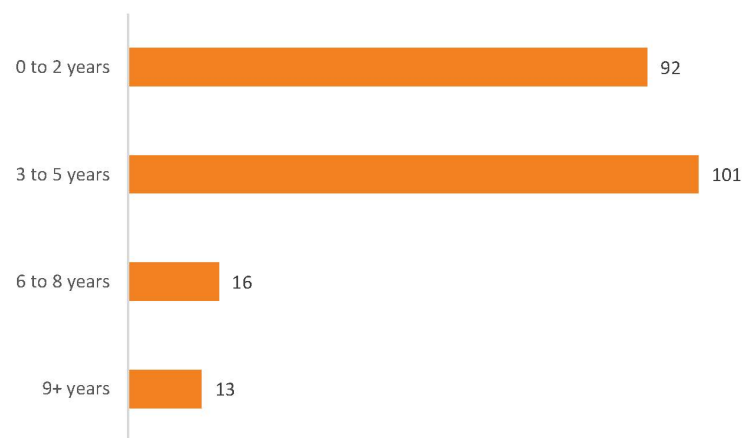
- Engineering, general
- Business administration and management, general
- Computer science
- Health/health care administration/management
- Nursing science

### Minimum Educational Attainment Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

### Experience Required Q1 2016



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network



Required experience levels for 0-2 years are over triple experience levels of 6-8 and 9+ years combined



The 6th most specified certification to have in Q1 2016 was a certified registered central service technician

## Skilled Trades & Technicians in-Demand Skills Q1 2016

The occupations in the Skilled Trades group require a wide array of high-level technical skills. Traditional skills like machinery, welding, plumbing, and repair, are still present in Skilled Trades job postings. Advanced technical skills like SQL (Structured Query Language) and software development also appear on Q1 2016's skills list, further illustrating a shift in Skilled Trades employment to more advanced education and technology requirements. While Skilled Trades workers now need advanced technical skills, they also need to maintain more traditional foundational skills critical to succeeding in a workplace. Employers hiring Skilled Trades workers often post employability skills like communication, problem solving, physical demand, and creativity/analytical ability in their advertisements. These types of skills are crucial for Skilled Trades so that they can collaborate effectively and especially in high-demand supervisor rolls.

### Technical in-Demand Skills

- Machinery/Computer Numerical Control (CNC)/Coordinate Measuring Machine (CMM)
- Mathematics
- Structured Query language (SQL)/Software Development
- Supervisory Skills/Project Management/Budgeting/Purchasing
- Customer Service/Contact

### Foundational In-Demand Skills

- Communication Skills/Team Work-Collaboration/Building Effective Relationships
- Troubleshooting/Preventative Maintenance/Problem Solving/Work Area Maintenance/Quality Assurance and Control
- Physical Demand
- Organizational Skills/Supervisory Skills/Leadership/Project Management/Decision Making
- Microsoft Office

### Job Type

- Temporary: 5.9%
- Full-time: 47%
- Part-time: 1.8%

### Certifications In-Demand

- Security clearance
- Cdl class a
- Master project management
- Automotive service excellence (ase) certification
- Boiler operator license



There were more advertised salaries of less than \$35,000 in Q1 2016 than each other salary range

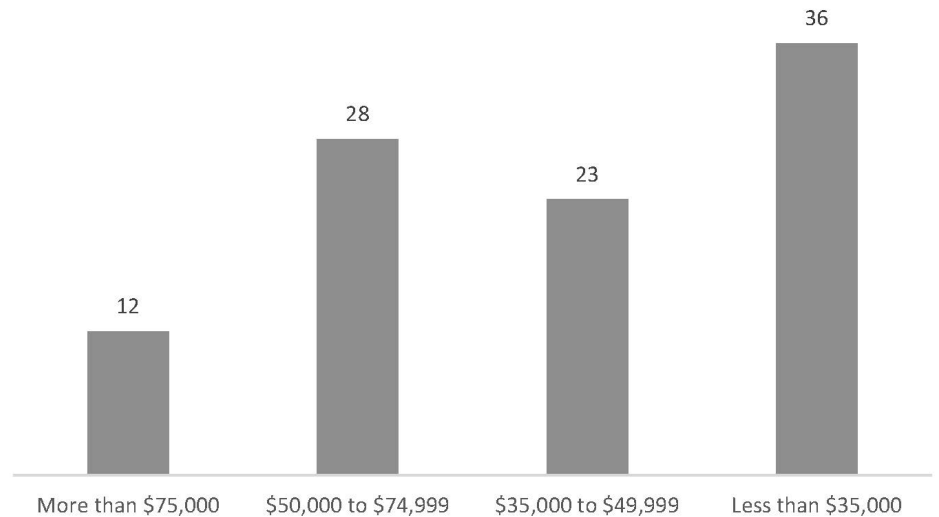


The highest yearly salary of the top 10 in demand occupations for an entry-level position in 2015 was over \$41,000

## Skilled Trades & Technicians Wages

## Advertised Salaries Quarter 1 2016

Of the 439 online job postings in the Skilled Trades group, 340 did not specify a salary. With this in mind, just under 60% of postings show advertised salaries of \$35,000 per year or less. This majority of salaries that fall under \$35,000 is most likely due to the majority of online job postings being for entry-level positions. Although, with continued education and post-secondary experience, the top-10 occupations related to Skilled Trades all have median-level earnings above the living wage of \$15 per hour.



Data: Burning Glass Technologies  
Analysis: Workforce Intelligence Network

## Wage Data from Bureau of Labor Statistics 2015

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
51-1011	First-Line Supervisors of Production and Operating Workers	\$17.67	\$22.66	\$30.33	\$40.50	\$47.94
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$9.16	\$11.99	\$16.71	\$23.77	\$29.77
51-9199	Production Workers, All Other	\$9.79	\$11.10	\$16.05	\$23.21	\$33.71
17-3023	Electronics Engineering Technicians	\$16.25	\$24.25	\$30.59	\$34.52	\$37.74
17-3029	Manufacturing Production Technicians	\$16.36	\$21.28	\$28.69	\$36.16	\$44.06
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$10.03	\$11.47	\$15.71	\$22.15	\$31.33
51-4111	Tool and Die Makers	\$19.90	\$24.42	\$30.59	\$34.00	\$36.04
51-4041	Machinists	\$12.48	\$15.47	\$19.38	\$25.54	\$33.72
51-4121	Welders, Cutters, and Welder Fitters	\$13.15	\$15.96	\$19.41	\$26.90	\$33.74
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	\$19.06	\$21.70	\$25.91	\$28.68	\$30.43

Data: EMSI, BLS  
Analysis: Workforce Intelligence Network

### Annual Labor Market Data

	2010 Annual	2011 Annual	2012 Annual	2013 Annual	2014 Annual	2015 Annual	2016 to- date	Change from 2015	Percent Change from 2015
Labor Force	276,884	261,343	256,748	255,742	248,098	240,000	<b>241,316</b>	1,316	0.5%
Employment	208,289	206,226	207,399	207,076	207,681	210,242	<b>214,950</b>	4,709	2.2%
Unemployment	68,596	55,117	49,348	48,666	40,418	29,758	<b>26,366</b>	-3,392	-11.4%
Unemployment Rate	24.8%	21.1%	19.2%	19.0%	16.3%	12.4%	<b>10.9%</b>	-1.5%	na

*\*Note: Monthly data averaged by year*

Data: Bureau of Labor Statistics

### Quarterly Labor Market Data

	1st Quarter 2015	2nd Quarter 2015	3rd Quarter 2015	4th Quarter 2015	1st Quarter 2016	Change from 4th Quarter 2015	Percent Change from 4th Quarter 2015
Labor Force	239,319	239,338	242,683	238,659	<b>241,316</b>	2,657	1.1%
Employment	208,350	209,588	211,191	211,838	<b>214,950</b>	3,112	1.5%
Unemployment	30,969	29,750	31,492	26,821	<b>26,366</b>	-455	-1.7%
Unemployment Rate	12.9%	12.4%	13.0%	11.2%	<b>10.9%</b>	-0.3%	na

*\*Note: Monthly data averaged by quarter*

Data: Bureau of Labor Statistics










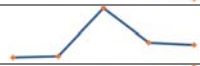

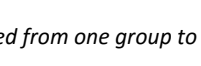
### Monthly Labor Market Data

	January 2015	February 2015	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015	September 2015	October 2015	November 2015	December 2015	January 2016	February 2016	March 2016
Labor Force	241,684	238,584	237,689	234,316	241,629	242,068	246,259	243,422	238,367	241,386	236,550	238,041	239,195	240,809	243,944
Employment	207,818	208,501	208,730	208,699	209,900	210,165	210,470	211,876	211,226	211,036	212,108	212,369	212,572	215,141	217,137
Unemployment	33,866	30,083	28,959	25,617	31,729	31,903	35,789	31,546	27,141	30,350	24,442	25,672	26,623	25,668	26,807
Unemployment Rate	14.0%	12.6%	12.2%	10.9%	13.1%	13.2%	14.5%	13.0%	11.4%	12.6%	10.3%	10.8%	11.1%	10.7%	11.0%

*\* Note: Data shown for 15 most recently available months*



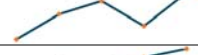










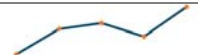



Data: Bureau of Labor Statistics

# City of Detroit Job Posting Data by Occupation Group\* Over Time

	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Change Over Time	Annual Change Q1 2015-Q1 2016	Quarter Growth Q4 2015-Q1 2016
Total Postings	27,360	27,742	30,426	27,966	29,296		7.1%	4.8%
Agriculture	338	353	375	316	353		4.4%	11.7%
Business & finance	2,388	2,449	2,843	2,271	2,393		0.2%	5.4%
Construction	200	204	236	220	197		-1.5%	-10.5%
Customer service	4,607	4,485	4,919	4,857	5,283		14.7%	8.8%
Education	517	698	482	404	389		-24.8%	-3.7%
Energy	73	71	157	118	108		47.9%	-8.5%
Engineers & designers	1,188	1,214	1,378	1,298	1,130		-4.9%	-12.9%
Health care	4,110	4,467	4,531	4,908	5,228		27.2%	6.5%
Information technology	5,234	4,554	5,770	4,459	4,207		-19.6%	-5.7%
Skilled trades & technicians	417	419	503	443	439		5.3%	-0.9%
Transportation, distribution, and logistics	1,303	1,571	1,622	1,492	1,780		36.6%	19.3%

*\*Note: Some overlap exists between groups, the occupational groups are not mutually exclusive. Thus, postings should not be added from one group to another but instead should be analyzed on their own.*

# Total Job Postings: WIN Partnership

	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Share of Q1 2016 Total	Change Over Time	Annual Change Q1 2015-Q1 2016	Quarter Growth Q4 2015-Q1 2016
WIN-Region Total	116,397	129,794	140,225	126,959	143,199	100.0%		23.0%	12.8%
Detroit	27,360	27,742	30,426	27,966	29,296	20.5%		7.1%	4.8%
Genesee & Shiawassee	4,322	5,071	5,465	4,721	5,711	4.0%		32.1%	21.0%
Hillsdale & Lenawee	1,167	1,495	1,467	1,580	1,678	1.2%		43.8%	6.2%
Jackson	2,262	2,415	2,373	2,099	2,557	1.8%		13.0%	21.8%
Livingston	1,912	2,151	2,274	2,048	2,472	1.7%		29.3%	20.7%
Macomb	12,003	13,586	14,136	12,658	14,754	10.3%		22.9%	16.6%
Monroe	1,555	1,871	1,778	1,662	1,841	1.3%		18.4%	10.8%
Oakland	34,691	40,219	44,474	39,030	45,418	31.7%		30.9%	16.4%
St. Clair	1,518	1,807	1,697	1,461	1,730	1.2%		14.0%	18.4%
Thumb Area	1,079	1,208	1,199	1,561	1,673	1.2%		55.1%	7.2%
Washtenaw	10,421	11,192	11,812	10,540	11,951	8.3%		14.7%	13.4%
Wayne	47,379	50,930	55,824	51,993	55,886	39.0%		18.0%	7.5%
Outer Wayne	20,019	23,188	25,398	24,027	26,590	18.6%		32.8%	10.7%
Prosperity Region 6	6,919	8,086	8,361	7,743	9,114	6.4%		31.7%	17.7%
Prosperity Region 9	17,317	19,124	19,704	17,929	20,499	14.3%		18.4%	14.3%
Prosperity Region 10	94,073	104,735	114,434	103,681	116,058	81.0%		23.4%	11.9%

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