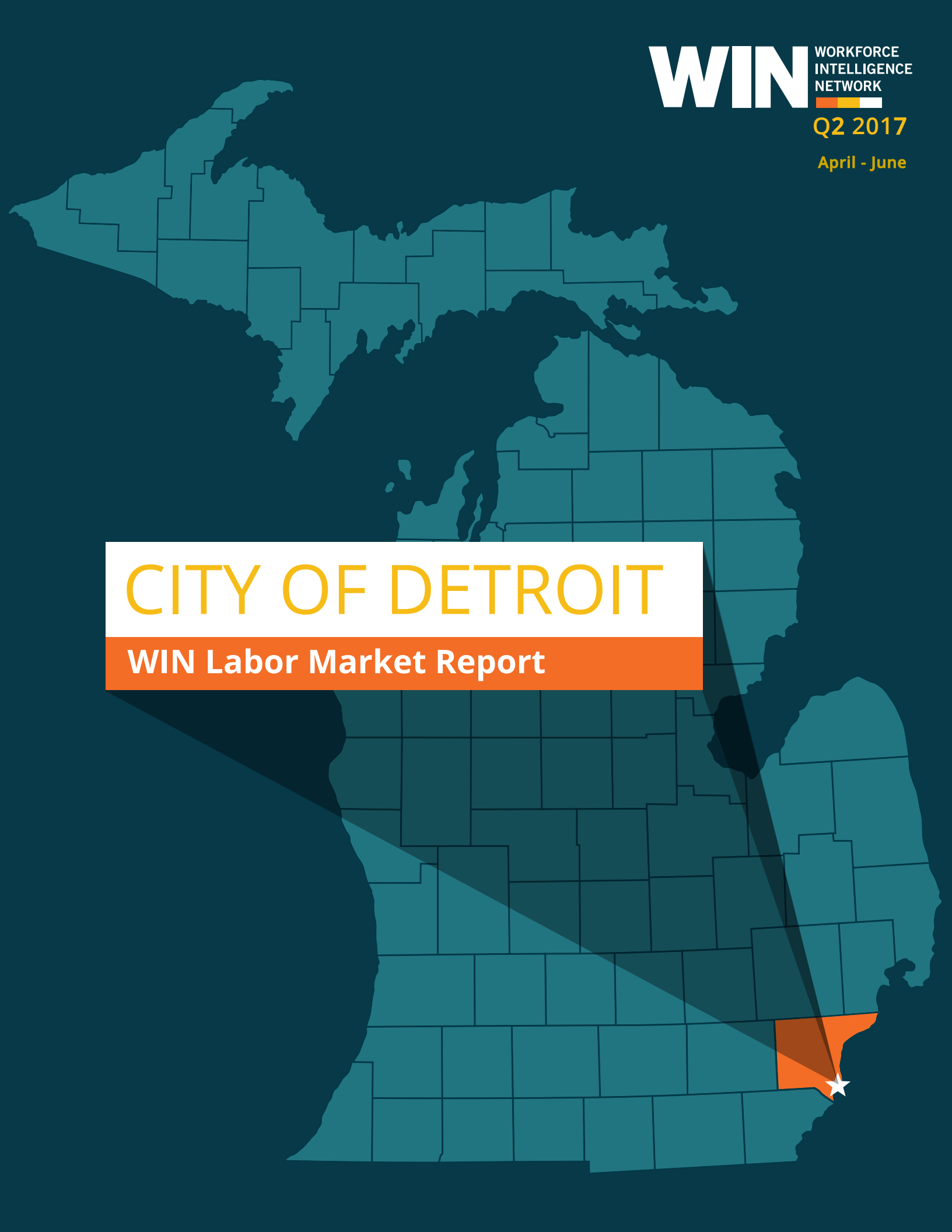


CITY OF DETROIT

WIN Labor Market Report





Introduction: City of Detroit

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 and real-time job posting data for Detroit as a whole with special sections devoted to 8 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 13)
- Health care (page 19)
- Information technology (page 25)
- Skilled trades & technicians (manufacturing focused) (page 31)

Data analyzed includes:

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



Introduction: City of Detroit

Key Findings for Quarter 2 2017

Online job postings within Detroit reached a new high during Q2 2017.

During Q2 2017, employer demand for all occupations increased by 12 percent to 31,757 online job postings. Despite quarter to quarter variation, demand within Detroit has shown strong annual growth over the last six years. Q2 2017 demand is 57 percent higher than the 20,282 postings in Q1 2011, the start of WIN's analysis.

Registered Nurses retains spot as top in-demand job with large volume of postings.

Always a top occupation within the Health Care group, Registered Nurses continues to be Detroit's most in-demand job overall. Employers posted an additional 401 job ads for nurses in Q2 2017, which is an 18 percent jump from Q1 2017 postings. Many other Health Care occupations offer opportunities for job and wage advancement proportional to education and experience, in addition to consistent employment growth. See page 19 for more details.

More positions open to Skilled Trade workers, new high in employer demand.

Recently Skilled Trade employer demand peaked during Q2 2017 with 575 postings open in Detroit. This is the highest number of postings seen in last several years, last peaking at 569 postings in Q3 2011. This brings a great opportunity for job seekers with the volume of entry level openings available. See page 30 for more details.

Employment reached a new high, expanding 1.5 percent and adding over 3,000 jobs between Q1 and Q2 2017.

With the addition of 3,533 jobs in Q1 2017, the total number of jobs held in the region increased to over 220 thousand. This milestone employment number shows continued recovery in Detroit, after the recessionary low of 2010. (See page 3).

Large growth in job postings in Health Care related occupations.

Online job ads for Health Care continue to increase, reaching a new high of 6,287 postings during Q2 2017. Current demand is over 1,164 more postings than one year ago, in Q2 2016, and over 4,564 more than in Q2 2011, a 265 percent increase. This represent another opportunity for jobseekers looking for work. See page 18 for more details.

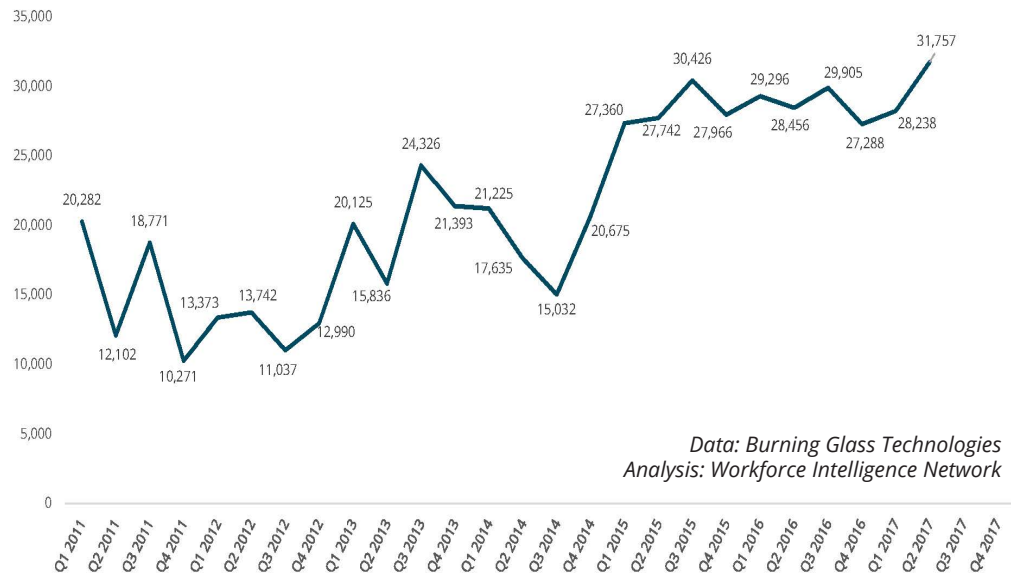


Workforce and Employer Demand Indicators

Postings over time

Online job ads for occupations in Detroit grew by 12 percent (3,519 postings) from 28,238 in Q1 2017 to 31,757 in Q2. This level of demand represents a new high point over the past six years for Detroit, breaking the last peak of 30,426 posting during Q3 2015. Postings have generally increased over recent years from the 20,282 online job ads targeted the city of Detroit in Q1 2011, the first quarter of WIN's analysis.

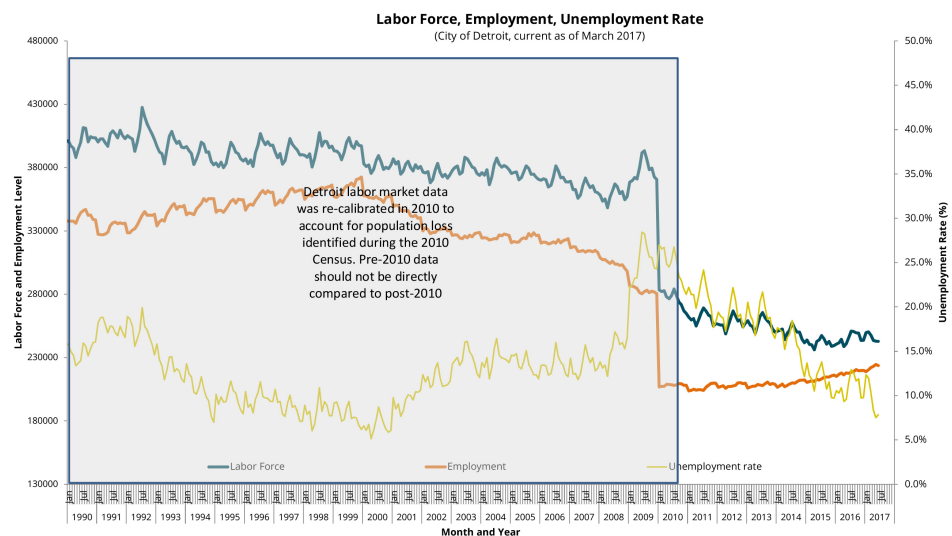
City of Detroit Online Job Postings



Labor force/employment/unemployment

The labor market in the City of Detroit has experienced relative stability since 2014. The labor force decreased by 1,214 workers (-2.5 percent) between Q1 2017 and Q2 2017. Annually however, it has increased by 1,183 individuals (+0.5 percent) from 245,014 in 2016 to 246,197 thus far in 2017. Employment in Detroit has increased slightly from Q1 2017, adding 3,353 workers (1.5 percent). Yearly employment grew by 4,529 (+2.1 percent) from 218,295 in Q1 2017 to 222,824 in Q2 2017. The annual unemployment rate in this region has also seen improvement, experiencing a decrease over the past seven years to its lowest annual point. The quarterly unemployment rate dropped by 2.2 percentage points between Q1 2017 and Q2 2017 to 3.6 percent.

Labor Force, Employment, Unemployment Rate 2017



Data: BLS
Analysis: Workforce Intelligence Network



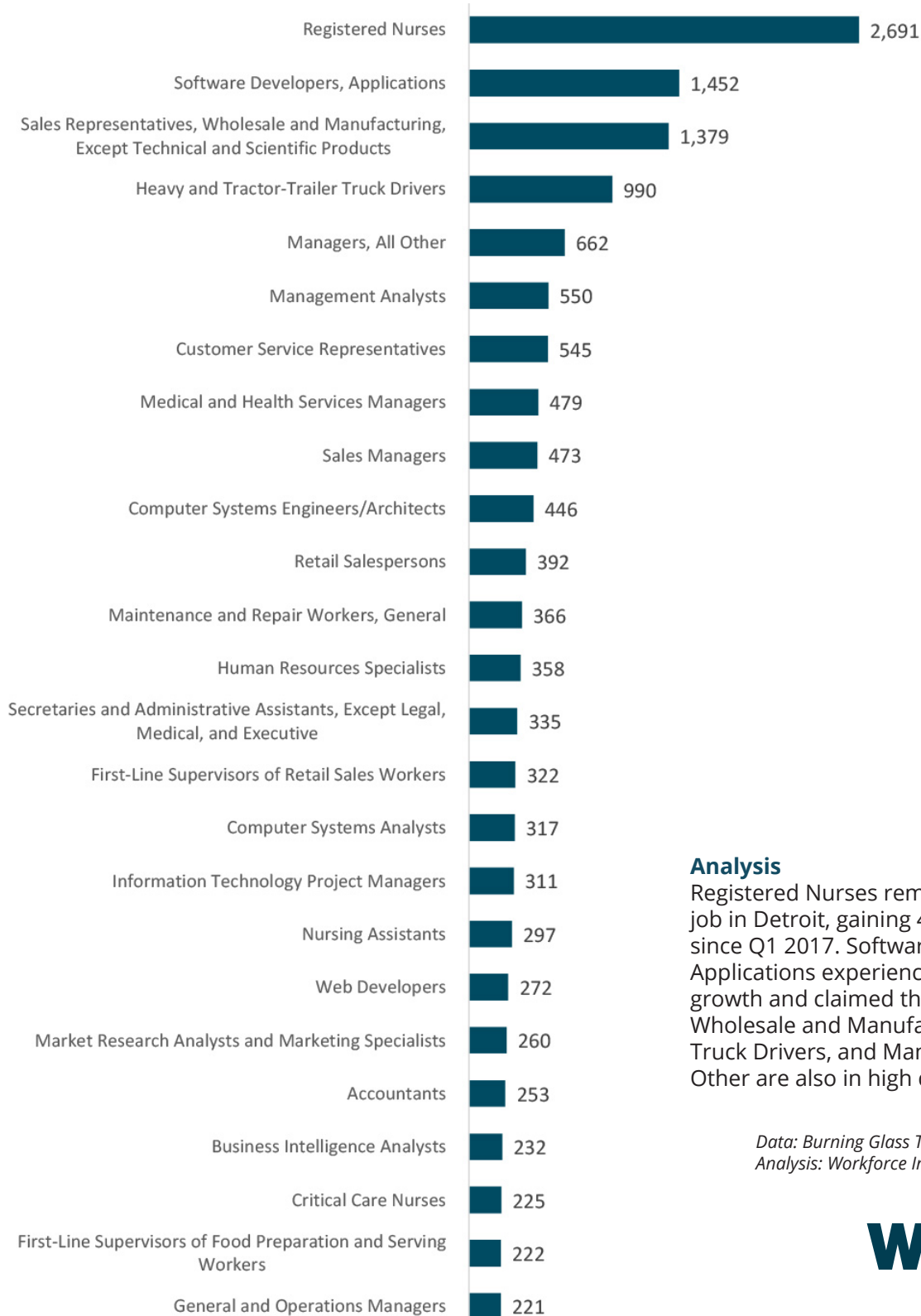
246,197 workers employed in
the City of Detroit

%

3.6% quarterly
unemployment rate

Top Posted Jobs

Quarter 2 2017



Analysis

Registered Nurses remain the top job in Detroit, gaining 400 postings since Q1 2017. Software Developers, Applications experienced a similar growth and claimed the top spot. Wholesale and Manufacturing Sales, Truck Drivers, and Managers, All Other are also in high demand.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Registered Nurses Top In-Demand Job



Record high demand:
31,757 online job postings

Top Posted Jobs

Quarter 2 2017

Bookkeeping, Accounting, and Auditing Clerks	214
Mechanical Engineers	203
Financial Analysts	202
Database Administrators	197
Security Guards	188
Marketing Managers	185
Network and Computer Systems Administrators	179
Electrical Engineers	175
Information Security Analysts	174
Medical Assistants	171
Medical Records and Health Information Technicians	170
First-Line Supervisors of Office and Administrative Support Workers	168
Auditors	163
Physicians and Surgeons, All Other	162
Medical and Clinical Laboratory Technicians	159
Combined Food Preparation and Serving Workers, Including Fast Food	158
Financial Managers, Branch or Department	158
Insurance Sales Agents	157
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	155
Nurse Practitioners	154
Compensation, Benefits, and Job Analysis Specialists	151
Computer User Support Specialists	151
Software Quality Assurance Engineers and Testers	141
Engineers, All Other	139
Computer Occupations, All Other	138



Business & Finance Occupation Group

Introduction

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.

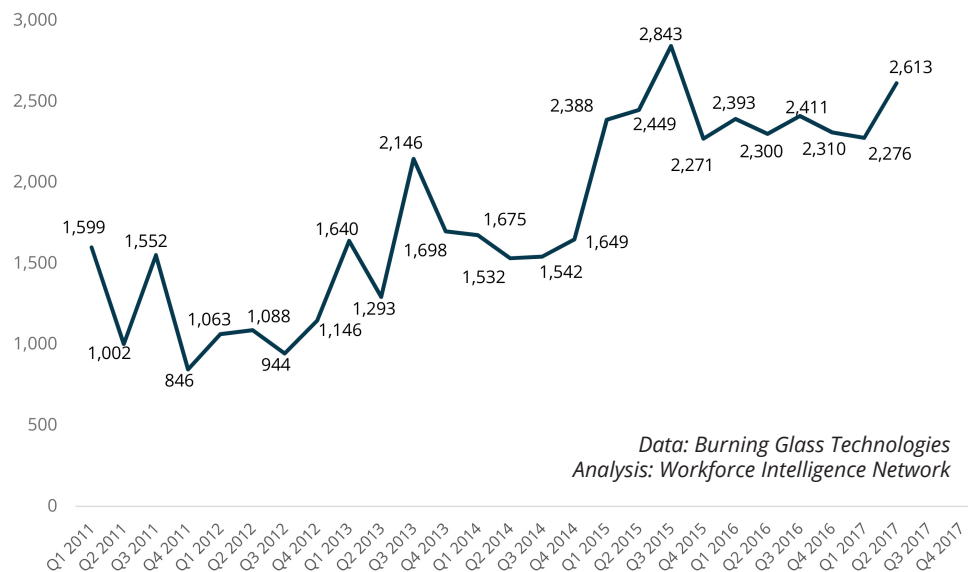
Job Posting Analysis

Business and Finance postings increased by 15 percent between Q1 and Q2 2017, resulting in 337 additional job ads for a total of 2,613 online job ads. Demand in this occupation group has shown a pattern of growth since 2013 despite remaining relatively flat between Q4 2015 and Q1 2017. Employers posted 313 more online job ads in Q2 2017 than in Q2 2016, nearly a 14 percent increase year-over-year.

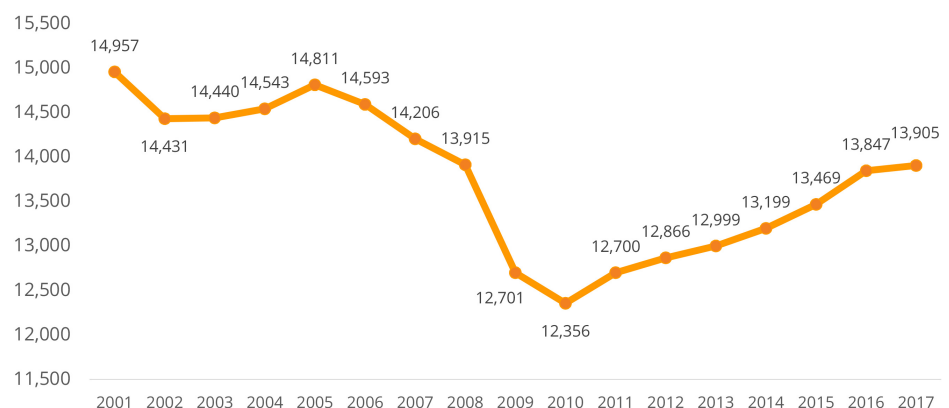
Employment Analysis

Employment in Business and Finance related occupations has remained relatively stable since the Great Recession in 2009, when it fell to a minimum level of 12,356 individuals. In 2017, employment has grown modestly to 13,905 individuals, but this is the highest level since 2009.

Online Job Postings



Employment Over Time



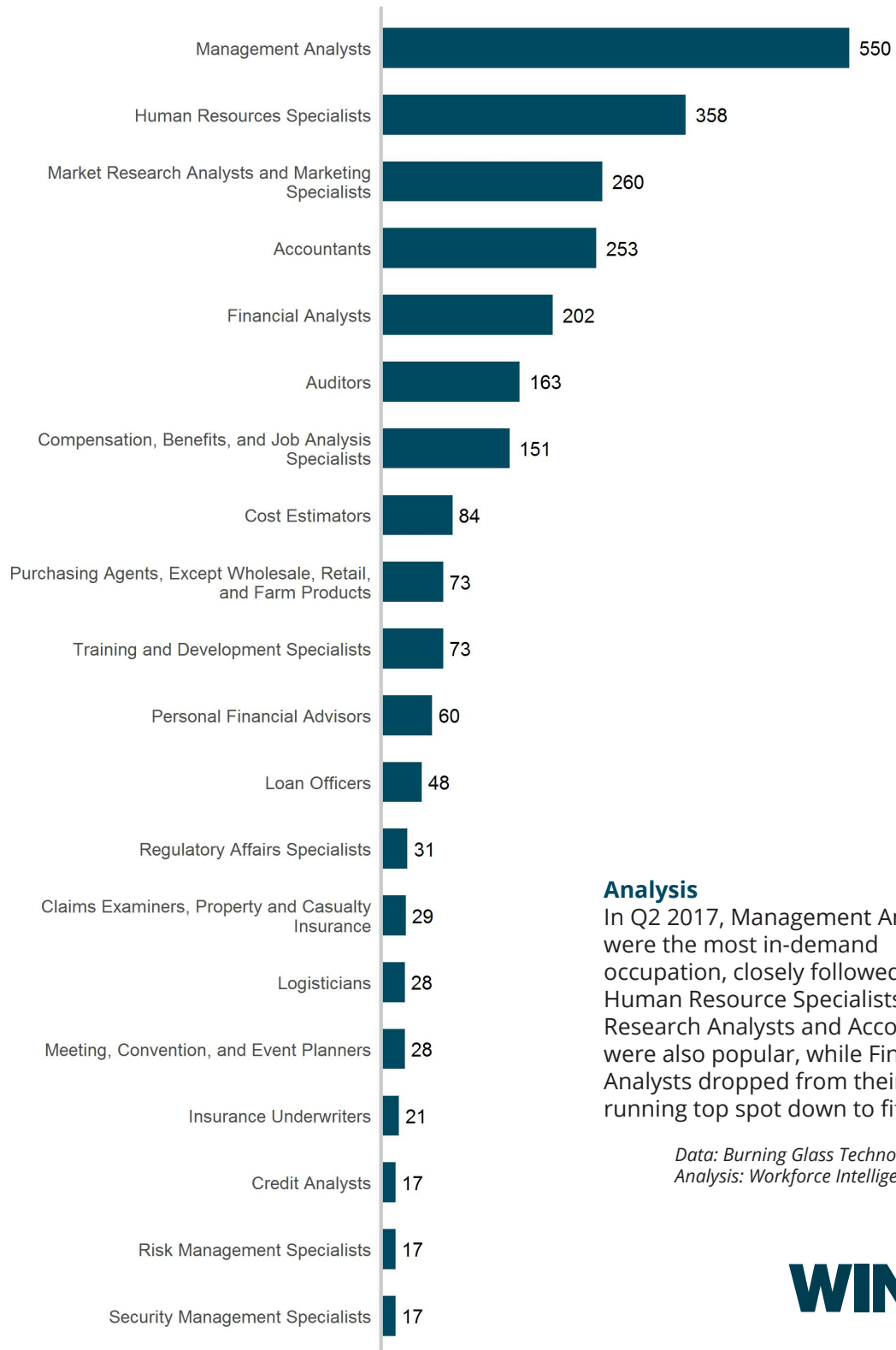


13,905 workers employed,
highest since 2016



2,613 postings
in Business and Finance

Business & Finance
Top Jobs Posted
Q2 2017



Analysis

In Q2 2017, Management Analysts were the most in-demand occupation, closely followed by Human Resource Specialists. Market Research Analysts and Accounts were also popular, while Financial Analysts dropped from their long-running top spot down to fifth place.

*Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network*



Bachelor's degree desired



Management Analysts: new top posted job

Business & Finance Education and Experience

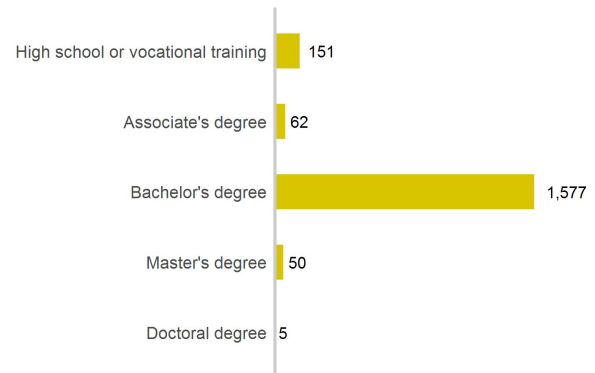
Of the 1,845 Business and Finance job postings that specified a desired educational attainment level, 85 percent preferred candidates with a bachelor's degree. High school or vocational training was the next most in-demand level of education.

There are 1,791 postings that specified a desired level of experience. These were mostly split between zero to two years of experience and three to five years of experience, with 641 and 844 ads respectively. In Q2 2017, entry-level Business and Finance positions are available to Detroit workers willing to pursue a bachelor's degree.

In-Demand Areas of Study

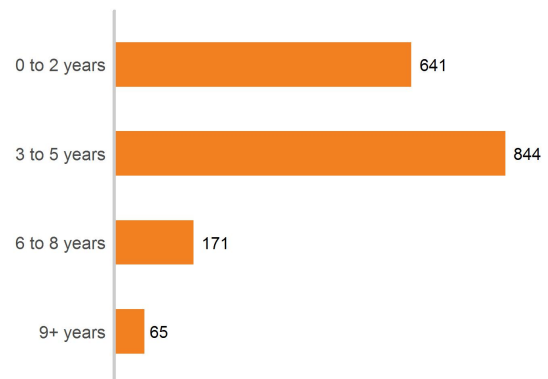
- Accounting
- Business Administration and Management, General
- Finance
- Economics
- Engineering, General

Educational Attainment



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Top area of study:
Accounting



Under 5 years:
experience in demand

Business & Finance In-Demand Skills

Occupations in Business and Finance require a variety of skills for effective fiscal management. These include interpersonal abilities like customer service alongside accounting and software familiarity. Employers hiring Business and Finance workers also specify common employability skills like communication, writing, and research abilities.

Technical In-Demand Skills

- Microsoft Office
- Accounting
- Project Management
- Budgeting
- Financial Analysis

Foundational In-Demand Skills

- Communication Skills
- Problem Solving
- Writing
- Planning
- Research

Job Type

- Full-time: 44.2%
- Part-time: 2.1 %
- Temporary: 2.1 %

Certifications Required

- Certified Public Accountant (CPA)
- Certified Information Systems Auditor (CISA)
- Project Management Certification (e.g. PMP)
- Mortgage License
- Professional in Human Resources



Accounting and software skills
in high demand



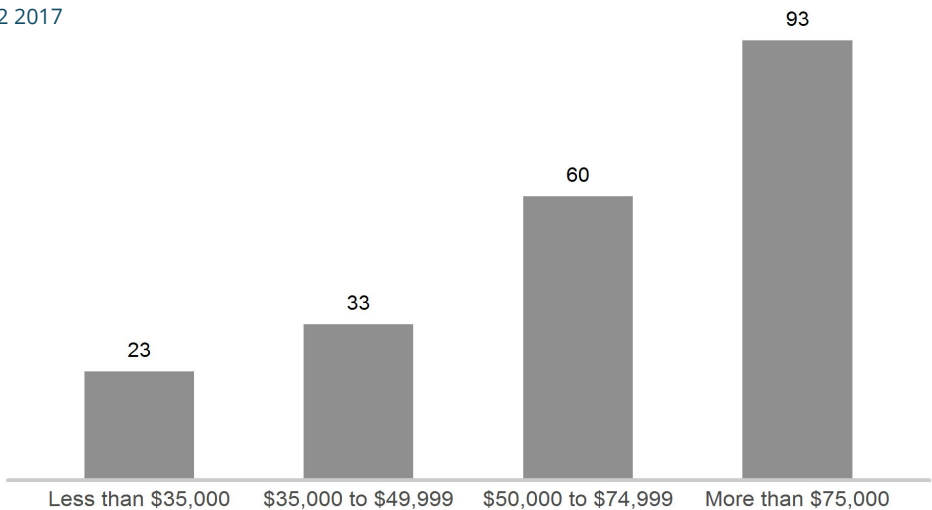
Average advertised salary:
\$73,000

Business & Finance Wages and Advertised Salary

Only 209 postings in Business and Finance specified an annual salary during Q2 2017, but those that did painted an optimistic picture. Of those postings, 29 percent were between \$50,000 and \$75,000 annually with a mean advertised salary of \$73,000. Better yet, 44 percent posted salaries with annual earnings above \$75,000. Lucrative positions in the field exist to suit the high education requirements. Entry level (tenth percentile) wages for each of the top ten Business and Finance jobs are over \$15 per hour, and half climb past \$25 at the median.

Advertised Salary in Job Postings

Q2 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages
13-1111	Management Analysts	\$25.08	\$30.35	\$38.62	\$53.00
13-1071	Human Resources Specialists	\$16.96	\$21.71	\$28.91	\$37.60
13-1161	Market Research Analysts and Marketing Specialists	\$21.12	\$27.45	\$38.72	\$51.67
13-2011	Accountants	\$20.83	\$25.79	\$32.87	\$42.55
13-2051	Financial Analysts	\$25.18	\$30.69	\$40.20	\$48.62
13-2011	Auditors	\$20.83	\$25.79	\$32.87	\$42.55
13-1141	Compensation, Benefits, and Job Analysis Specialists	\$21.13	\$24.45	\$29.35	\$36.15
13-1051	Cost Estimators	\$18.27	\$24.25	\$33.07	\$43.00
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$19.90	\$24.78	\$31.77	\$41.28
13-1151	Training and Development Specialists	\$17.11	\$22.81	\$31.16	\$39.10

Data: EMSI, BLS
Analysis: Workforce Intelligence Network



Business and Finance Occupations

Custom Occupation Group

Jobs in the Business and Finance occupation group can be found in nearly every type of business and industry. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Description
13-1011	Agents and Business Managers of Artists, Performers, and Athletes
13-1021	Buyers and Purchasing Agents, Farm Products
13-1022	Wholesale and Retail Buyers, Except Farm Products
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products
13-1031	Claims Adjusters, Examiners, and Investigators
13-1032	Insurance Appraisers, Auto Damage
13-1041	Compliance Officers
13-1051	Cost Estimators
13-1071	Human Resources Specialists
13-1074	Farm Labor Contractors
13-1075	Labor Relations Specialists
13-1081	Logisticians
13-1111	Management Analysts
13-1121	Meeting, Convention, and Event Planners
13-1131	Fundraisers
13-1141	Compensation, Benefits, and Job Analysis Specialists
13-1151	Training and Development Specialists
13-1161	Market Research Analysts and Marketing Specialists
13-1199	Business Operations Specialists, All Other
13-2011	Accountants and Auditors
13-2021	Appraisers and Assessors of Real Estate
13-2031	Budget Analysts
13-2041	Credit Analysts
13-2051	Financial Analysts
13-2052	Personal Financial Advisors
13-2053	Insurance Underwriters
13-2061	Financial Examiners
13-2071	Credit Counselors
13-2072	Loan Officers
13-2081	Tax Examiners and Collectors, and Revenue Agents
13-2082	Tax Preparers
13-2099	Financial Specialists, All Other

Introduction

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.

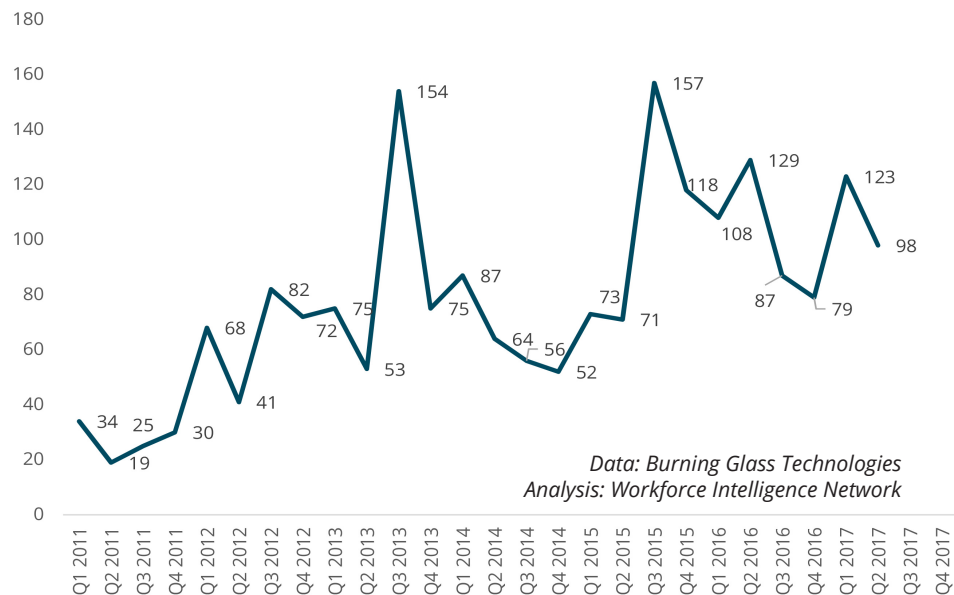
Job Posting Analysis

Online job ads for Energy workers dropped substantially during Q2 2017 following a few quarters of instability and general decline. Decreasing by 25 postings for a total of 98, demand is now near the midpoint of the dramatic increase that occurred in late 2015. Postings in the Energy group tend to be quite volatile relative to the small number of postings. Employer demand in Q2 2017 is 24 percent lower than during Q2 2016.

Employment Analysis

The data presented in the graph to the right represents total employment in the Energy industries (NAICS 2111, 2131, 2211, 2212, 2371), not just WIN-designated Energy occupations. In 2017, 2,119 Detroit workers are employed in these industries. Overall employment has typically grown over the past 16 years, quickly rebounding from a drop in workers in 2009 and remaining stable around 2,100 individuals over the last four years.

Online Job Postings



Employment Over Time



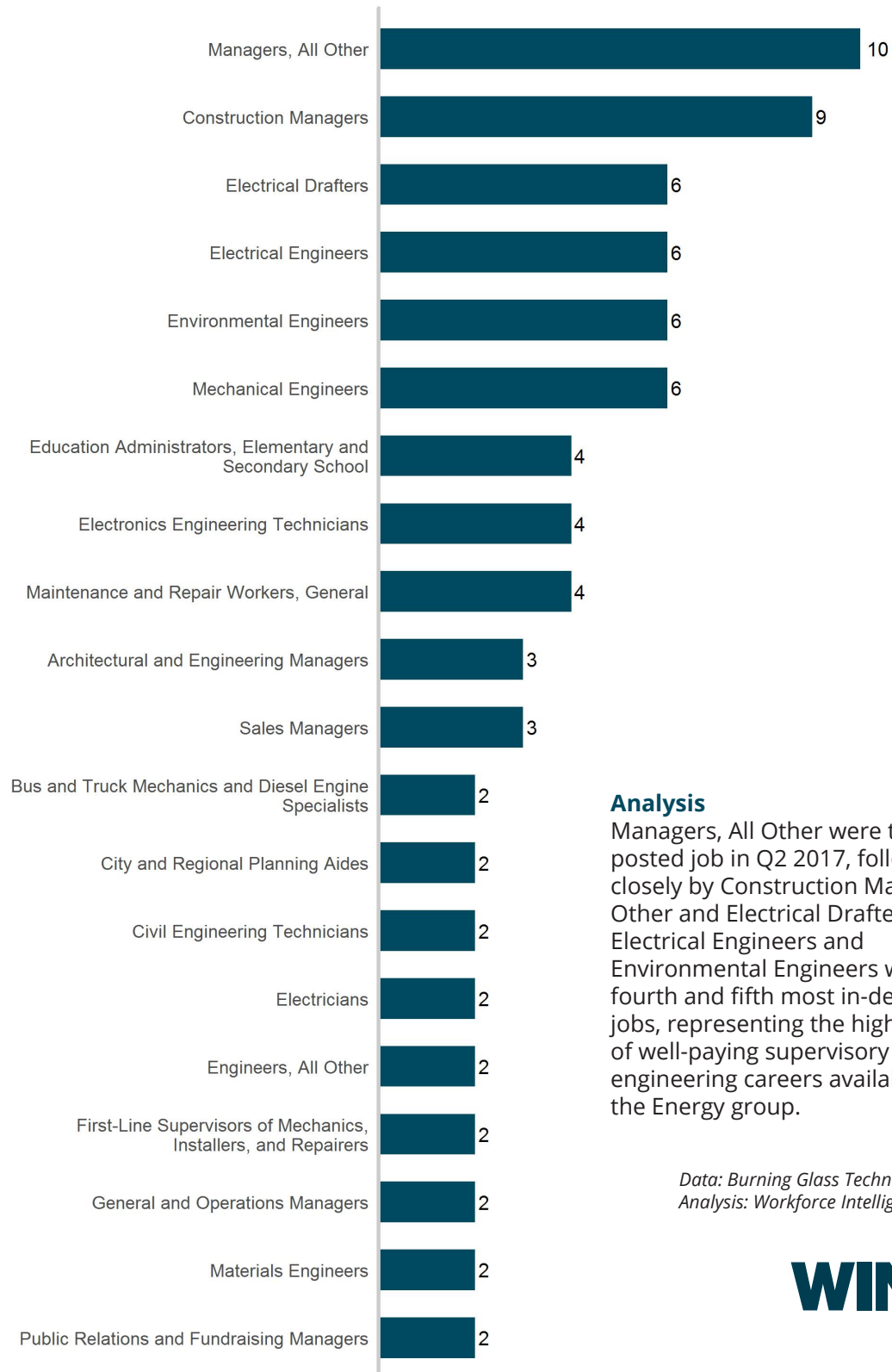


Managers and Construction Managers: top posted jobs



Online postings decline to 98

Energy Top Jobs Posted Q2 2017



Analysis

Managers, All Other were the top posted job in Q2 2017, followed closely by Construction Managers, All Other and Electrical Drafters. Electrical Engineers and Environmental Engineers were the fourth and fifth most in-demand jobs, representing the high number of well-paying supervisory and engineering careers available within the Energy group.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Bachelor's degrees in high demand



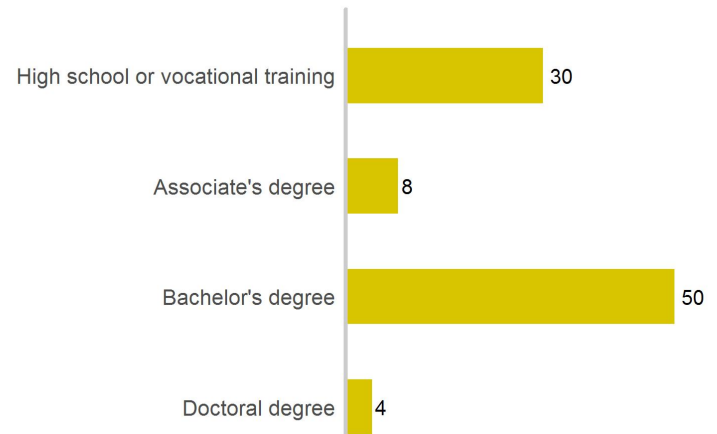
3 to 5 years: experience in-desired

Energy Education and Experience

Many jobs in Energy have an engineering focus and thus require a bachelor's degree for employment. However, there are also a great number of technician level positions that require vocational training such as an apprenticeship.

As seen in 48 percent of the postings that specified an experience level, energy companies posting in Q2 2017 preferred three to five years of experience, with an additional 30 percent of job ads desiring 6 to 8 years of experience. Demand for both entry level and highly experienced workers was lower, with around 11 percent each.

Educational Attainment

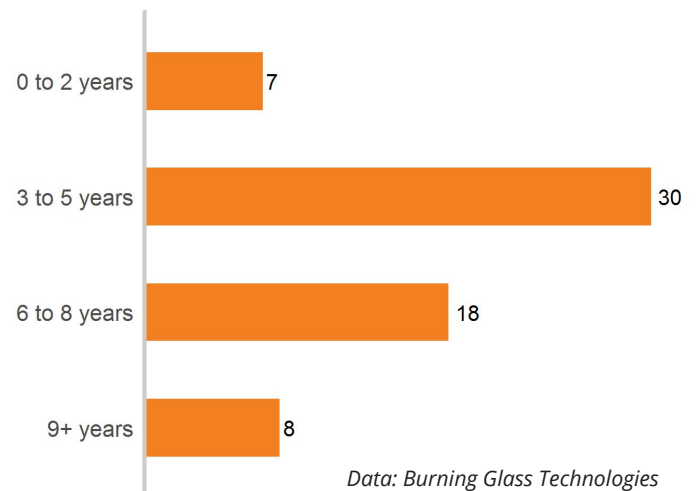


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Engineering, General
- Business Administration and Management, General
- Engineering Technology
- Electrical and Electronic Engineering Technologies
- Construction Management

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Management skills needed for
top occupations



High wage growth for engineer
and management positions

Energy In-Demand Skills

Employers in the Energy group need workers to have diverse skill sets to suit the wide range of occupations included. Planning, writing, problem solving, and communications skills are key for Energy workers as in many other occupation groups. Since most positions are highly technical, more specific abilities required for Energy jobs reflect engineering and management needs and range from budgeting and benchmarking to repair.

Technical In-Demand Skills

- Scheduling/ Budgeting
- Project Management/ Supervisory Skills
- Microsoft Office
- Repair/ Inspection
- Benchmarking/ Performance Management/ Cost Estimation

Foundational In-Demand Skills

- Computer Skills
- Planning
- Writing
- Communication Skills
- Problem Solving

Job Type

- Full-time: 43.9 %
- Part-time: Data Not Available
- Temporary: Data Not Available

Certifications Required

- Series 3
- Project Management Certification (E.G. PMP)
- Professional Engineer
- Air Brake Certified
- Certified Industrial Maintenance Mechanic



PMP and Series 3 certifications
sought after



\$62,234:
Average advertised salary

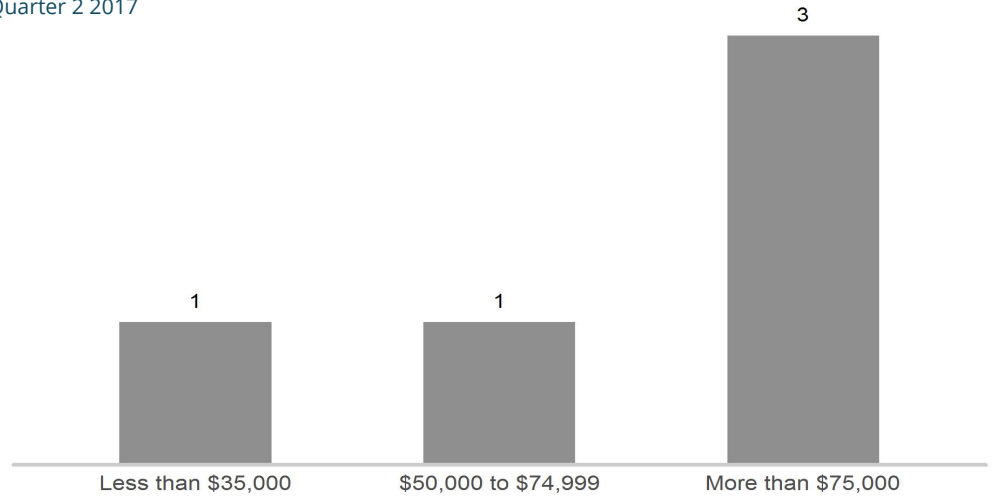
Energy

Wages and Advertised Salary

Only five Q2 2017 Energy postings advertised a salary. Among those, four advertised wages above \$50,000 annually. The median real-time wage in a posting during Q2 2017 was less than \$75,000. According to BLS data, wages for energy workers are high and offer upward growth. This is especially true for engineers and managers. As shown in the table of BLS data below, seven of the top ten jobs have median wages over \$35 hourly.

Advertised Salary in Job Postings

Quarter 2 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
11-9199	Managers, All Other	\$31.41	\$38.06	\$48.59	\$60.36	\$76.80
11-9021	Construction Managers	\$32.02	\$38.12	\$36.61	\$57.05	\$72.61
17-3012	Electrical Drafters	Insf. Data	Insf. Data	\$23.48	Insf. Data	Insf. Data
17-2071	Electrical Engineers	\$30.37	\$35.96	\$37.33	\$51.39	\$63.58
17-2081	Environmental Engineers	\$30.08	\$38.24	\$38.94	\$56.84	\$63.67
17-2141	Mechanical Engineers	\$28.54	\$35.89	\$37.09	\$52.27	\$60.98
11-9032	Education Administrators, Elementary and Secondary School	\$29.03	\$36.87	\$45.09	\$54.19	\$60.90
17-3023	Electronics Engineering Technicians	\$18.76	\$24.87	\$23.32	\$35.40	\$39.80
49-9071	Maintenance and Repair Workers, General	\$10.19	\$12.94	\$14.56	\$22.91	\$28.37
11-9041	Architectural and Engineering Managers	\$41.74	\$51.54	\$53.50	\$79.98	\$96.87

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Custom Occupation Group

Jobs in the WIN Energy occupation group are associated with the skilled trades, engineering, management, and planning. Due to the nature of these jobs and the broad industry of Energy as a whole, NAICS codes are used instead of SOC codes to encompass all those employed in Energy related fields. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

NAICS Code Industry

2111	Oil and Gas Extraction
2131	Support Activities for Mining
2211	Electric Power Generation, Transmission and Distribution
2212	Natural Gas Distribution
2371	Utility System Construction

Health Care Occupation Group

Introduction

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.

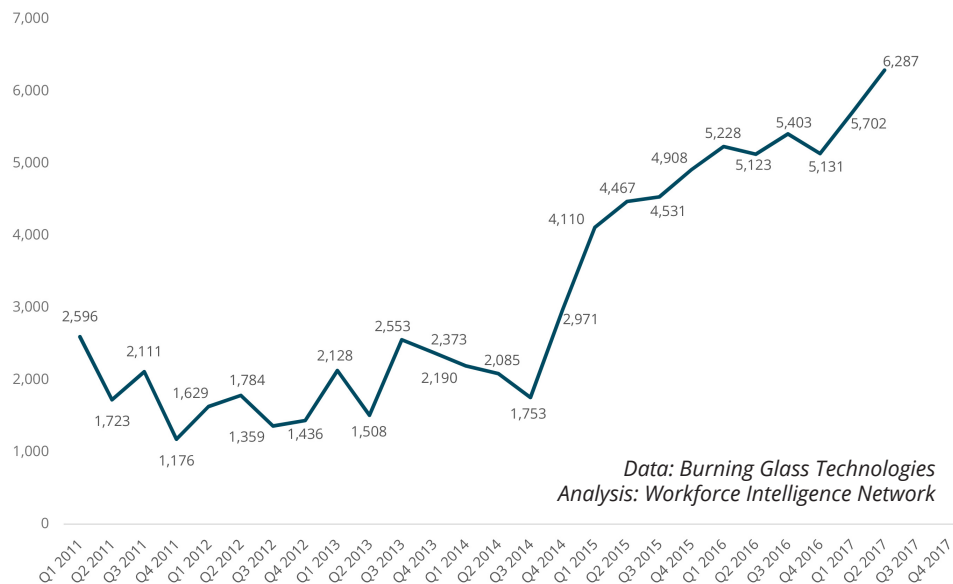
Job Posting Analysis

Online job ads for Health Care continue to increase, reaching a new high of 6,287 postings during Q2 2017. This is a 10 percent growth from the 5,702 postings during Q1 2017. Current demand is over 1,164 more postings than one year ago, in Q2 2016, and over 4,564 more than in Q2 2011, a 265 percent increase.

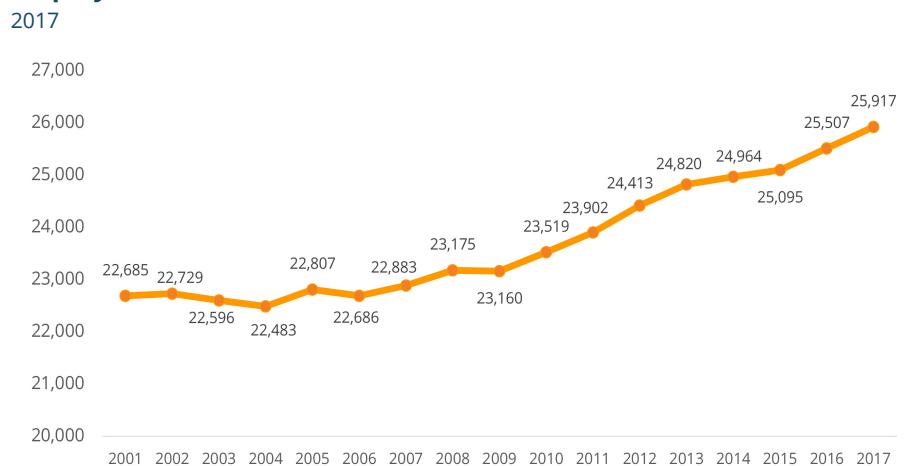
Employment Analysis

With 25,917 jobs, 2017 continues to set peak employment in Health Care, exceeding the previous high of 25,507 jobs in 2016. Employment has shown consistent growth since 2009, and is now 12 percent higher than the 23,160 persons employed in healthcare that year.

Online Job Postings



Employment Over Time



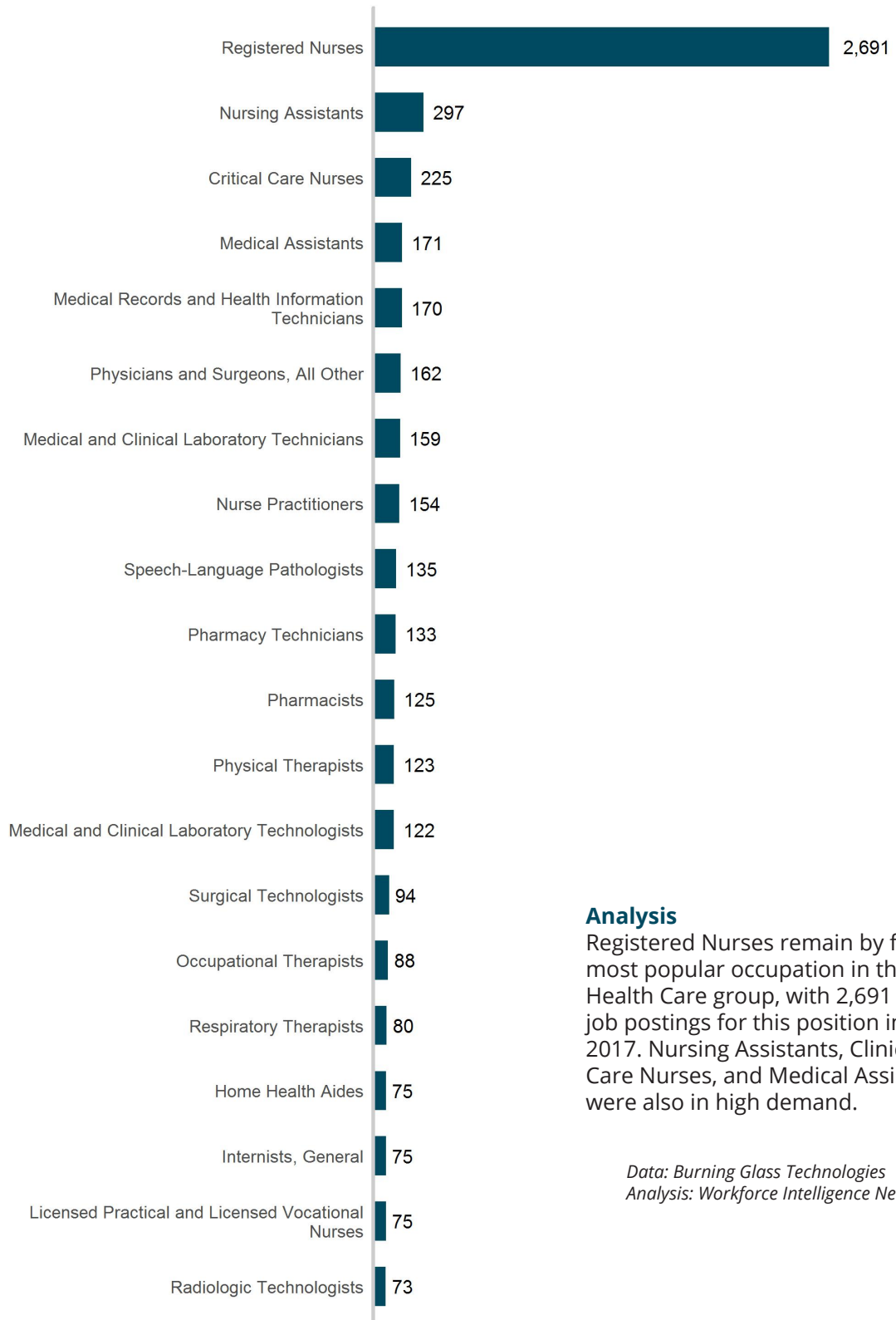


Registered Nurses:
top in-demand job



Job postings related to Health
Care increased to 6,287 ads

Health Care
Top Jobs Posted
Quarter 2 2017



Analysis

Registered Nurses remain by far the most popular occupation in the Health Care group, with 2,691 online job postings for this position in Q2 2017. Nursing Assistants, Clinical Care Nurses, and Medical Assistants were also in high demand.

*Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network*



0-2 years: most desired experience

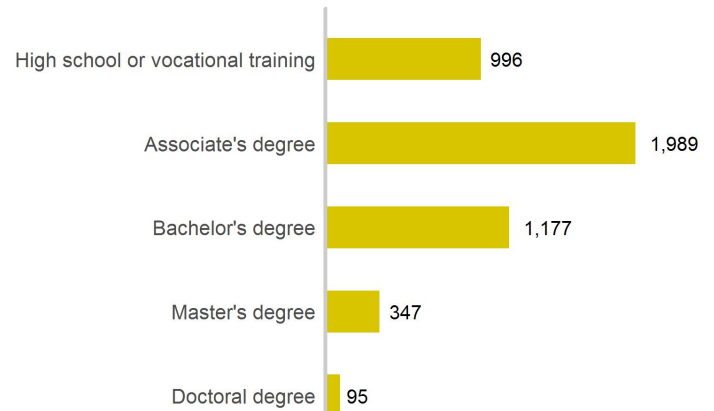
65%
of postings request
associate's degree or less

Health Care Education and Experience

Almost all the Health Care job postings that specified a desired experience level during Q2 2017 were available to workers with under two years of experience.

Moreover, 65 percent of postings indicating a desired educational attainment level were open to workers with an associate's degree or less. The high proportion of positions requiring limited education and experience combined with the steady employment growth make health care occupations a worthwhile prospect for many workers.

Educational Attainment

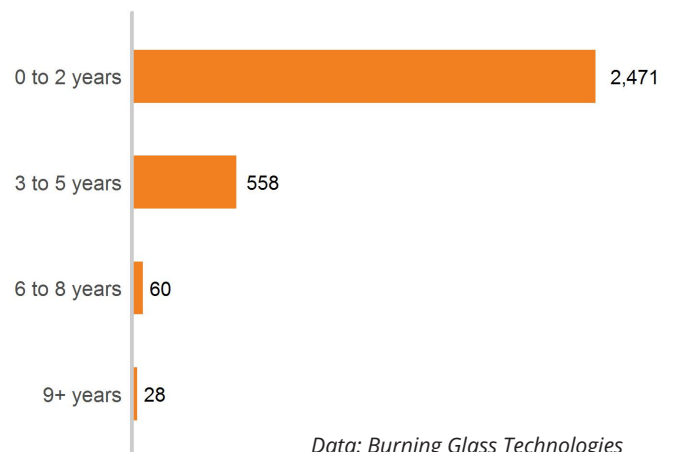


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Nursing Science
- Physical Therapy/ Therapist
- Business Administration and Management, General
- Biology/ Biological Sciences, General
- Microbiology, General

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Top areas of study:
Nursing Science and Physical Therapy

65%
of advertised salaries
> \$50,000 per year

Health Care In-Demand Skills

The occupations in the Health Care group require a wide array of high-level technical skills necessary to effectively provide care. These skills range from technical medical expertise such as CPR, surgery and disease knowledge to interpersonal and organizational skills like patient care and case management. Employers hiring Health Care workers often post complementary employability skills seeking effective communicators and planners.

Technical In-Demand Skills

- Patient Care
- Treatment Planning
- Supervisory Skills
- Cardiopulmonary Resuscitation (CPR)
- Patient Monitoring/ Evaluation/ Preparation

Foundational In-Demand Skills

- Communication Skills
- Organizational Skills/ Planning
- Quality Assurance and Control
- Analytical Skills
- Mentoring/ Collaboration/ Relationship Building

Job Type

- Full-time: 52.9%
- Part-time: 6.2%
- Temporary: 10.6%

Certifications Required

- Registered Nurse
- Critical Care Registered Nurse (CCRN)
- American Heart Association Certification
- First Aid CPR AED
- Certified Nursing Assistant



In-demand certifications:
RN, CCRN, CPR



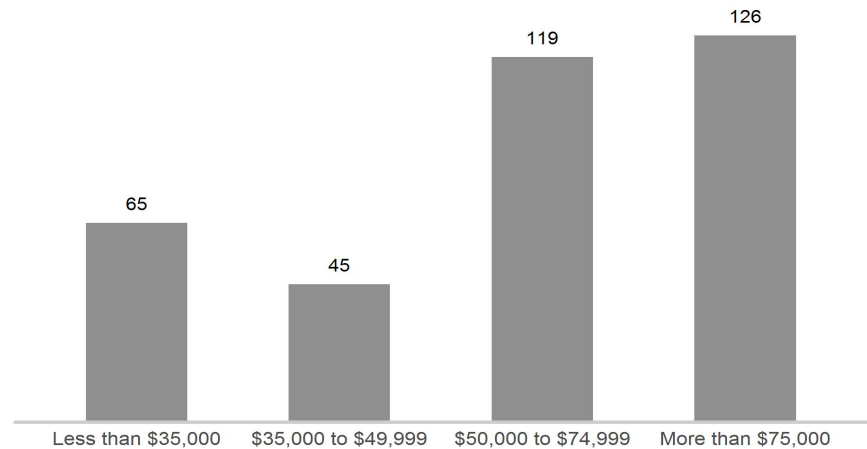
\$71,000: average advertised
salary

Health Care Wages and Advertised Salary

Salary data, where advertised, reflects the high number of well-paying top jobs. Of the 6,287 postings, only 355 specified a salary. The mean advertised salary was \$71,000 annually, with 35 percent of postings offering below \$50,000 and 65 percent above. The high salary levels, coupled with modest education and experience requirements for entry, provide promising opportunity. There is plenty of room for advancement in the field. Both Registered and Critical Care Nurses have strong wage opportunities, offering \$33.35 hourly at the median and \$42.25 at the 90th percentile.

Advertised Salary in Job Postings

Quarter 2 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
29-1141	Registered Nurses	\$25.57	\$28.77	\$33.35	\$37.61	\$42.25
31-1014	Nursing Assistants	\$10.14	\$11.97	\$13.71	\$15.50	\$17.87
29-1141	Critical Care Nurses	\$25.57	\$28.77	\$33.35	\$37.61	\$42.25
31-9092	Medical Assistants	\$10.70	\$12.31	\$13.96	\$16.19	\$18.38
29-2071	Medical Records and Health Information Technicians	\$11.97	\$13.82	\$17.03	\$22.13	\$27.62
29-1069	Physicians and Surgeons, All Other	\$21.65	\$29.37	\$74.16	\$91.16	\$138.18
29-2012	Medical and Clinical Laboratory Technicians	\$9.85	\$13.49	\$15.78	\$18.12	\$22.26
29-1171	Nurse Practitioners	\$31.57	\$41.30	\$46.85	\$53.75	\$59.83
29-1127	Speech-Language Pathologists	\$25.45	\$30.94	\$36.56	\$43.77	\$54.14
29-2052	Pharmacy Technicians	\$9.85	\$11.44	\$14.26	\$17.20	\$18.99

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Custom Occupation Group

WIN's Health Care occupation group includes jobs related to health care support and practitioners. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation	SOC Code	Occupation
29-1011	Chiropractors	29-2035	Magnetic Resonance Imaging Technologists
29-1021	Dentists, General	29-2041	Emergency Medical Technicians and Paramedics
29-1022	Oral and Maxillofacial Surgeons	29-2051	Dietetic Technicians
29-1023	Orthodontists	29-2052	Pharmacy Technicians
29-1024	Prosthodontists	29-2053	Psychiatric Technicians
29-1029	Dentists, All Other Specialists	29-2054	Respiratory Therapy Technicians
29-1031	Dietitians and Nutritionists	29-2055	Surgical Technologists
29-1041	Optometrists	29-2056	Veterinary Technologists and Technicians
29-1051	Pharmacists	29-2057	Ophthalmic Medical Technicians
29-1061	Anesthesiologists	29-2061	Licensed Practical and Licensed Vocational Nurses
29-1062	Family and General Practitioners	29-2071	Medical Records and Health Information Technicians
29-1063	Internists, General	29-2081	Opticians, Dispensing
29-1064	Obstetricians and Gynecologists	29-2091	Orthotists and Prosthetists
29-1065	Pediatricians, General	29-2092	Hearing Aid Specialists
29-1066	Psychiatrists	29-2099	Health Technologists and Technicians, All Other
29-1067	Surgeons	29-9011	Occupational Health and Safety Specialists
29-1069	Physicians and Surgeons, All Other	29-9012	Occupational Health and Safety Technicians
29-1071	Physician Assistants	29-9091	Athletic Trainers
29-1081	Podiatrists	29-9092	Genetic Counselors
29-1122	Occupational Therapists	29-9099	Healthcare Practitioners and Technical Workers, All Other
29-1123	Physical Therapists	31-1011	Home Health Aides
29-1124	Radiation Therapists	31-1013	Psychiatric Aides
29-1125	Recreational Therapists	31-1014	Nursing Assistants
29-1126	Respiratory Therapists	31-1015	Orderlies
29-1127	Speech-Language Pathologists	31-2011	Occupational Therapy Assistants
29-1128	Exercise Physiologists	31-2012	Occupational Therapy Aides
29-1129	Therapists, All Other	31-2021	Physical Therapist Assistants
29-1131	Veterinarians	31-2022	Physical Therapist Aides
29-1141	Registered Nurses	31-9011	Massage Therapists
29-1151	Nurse Anesthetists	31-9091	Dental Assistants
29-1161	Nurse Midwives	31-9092	Medical Assistants
29-1171	Nurse Practitioners	31-9093	Medical Equipment Preparers
29-1181	Audiologists	31-9094	Medical Transcriptionists
29-1199	Health Diagnosing and Treating Practitioners, All Other	31-9095	Pharmacy Aides
29-2011	Medical and Clinical Laboratory Technologists	31-9096	Veterinary Assistants and Laboratory Animal Caretakers
29-2012	Medical and Clinical Laboratory Technicians	31-9097	Phlebotomists
29-2021	Dental Hygienists	31-9099	Healthcare Support Workers, All Other
29-2031	Cardiovascular Technologists and Technicians		
29-2032	Diagnostic Medical Sonographers		
29-2033	Nuclear Medicine Technologists		
29-2034	Radiologic Technologists		



Information Technology Occupation Group

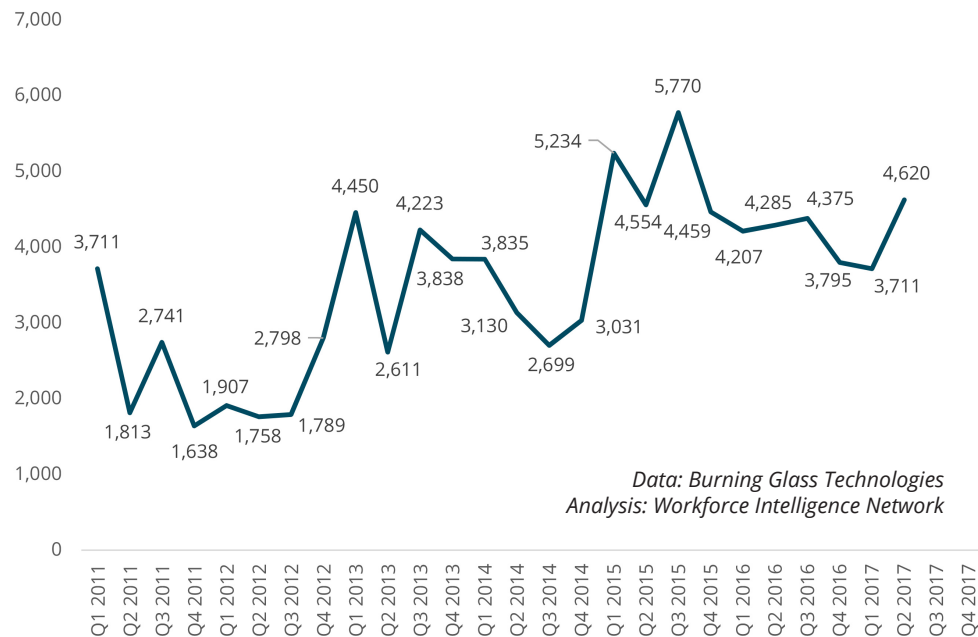
Introduction

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.

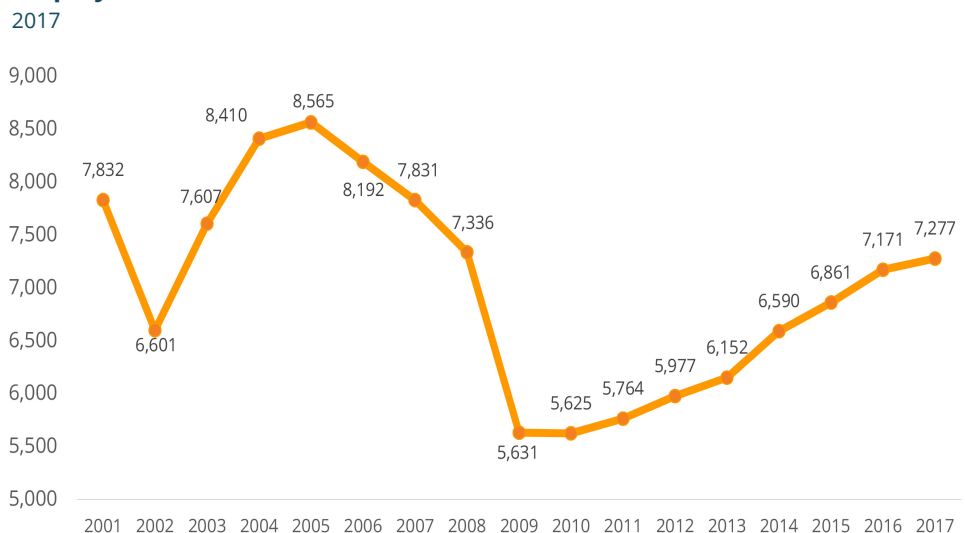
Job Posting Analysis

Online job ads for occupations related to IT increased 24.5 percent to 4,620 during Q2 2017, compared to 3,711 postings during Q1 2017. Employer demand for IT occupations in Detroit last peaked at 5,770 postings in Q3 2015. Since Q2 2016, there has been a 7.8 percent increase in online job postings.

Online Job Postings



Employment Over Time



Employment Analysis

Detroit employment in IT related fields has enjoyed consistent growth since 2010, the lowest point in the previous 16 years. To continue this pattern, 2017 reported 7,277 jobs in IT, adding about 106 jobs from 2016 levels.



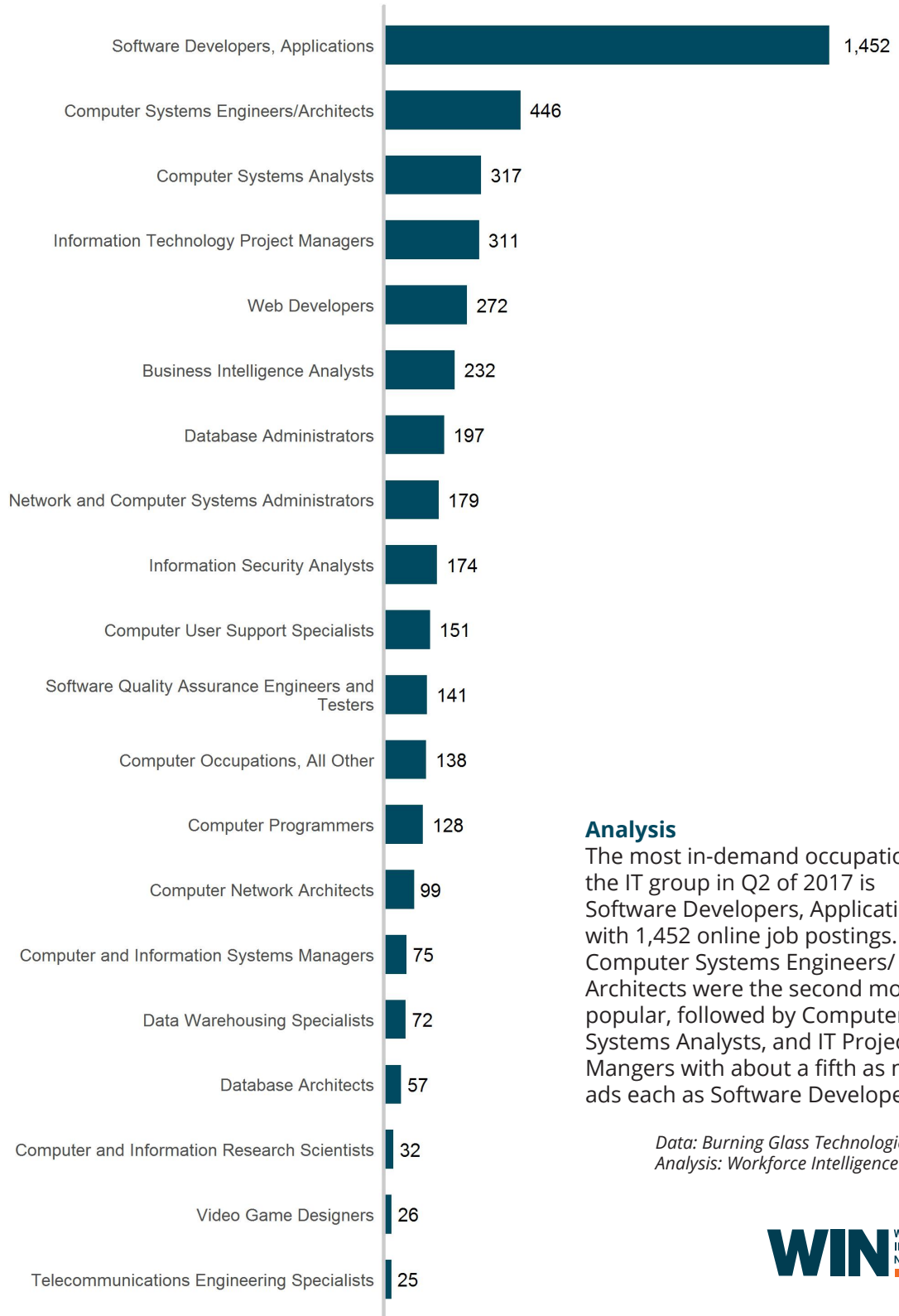
Software Developers, Applications: top in-demand job



24.5% increase in job postings

Information Technology Top Posted Jobs

Quarter 2 2017



Analysis

The most in-demand occupation in the IT group in Q2 of 2017 is Software Developers, Applications with 1,452 online job postings. Computer Systems Engineers/Architects were the second most popular, followed by Computer Systems Analysts, and IT Project Managers with about a fifth as many ads each as Software Developers.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



3 to 5 years of experience
preferred

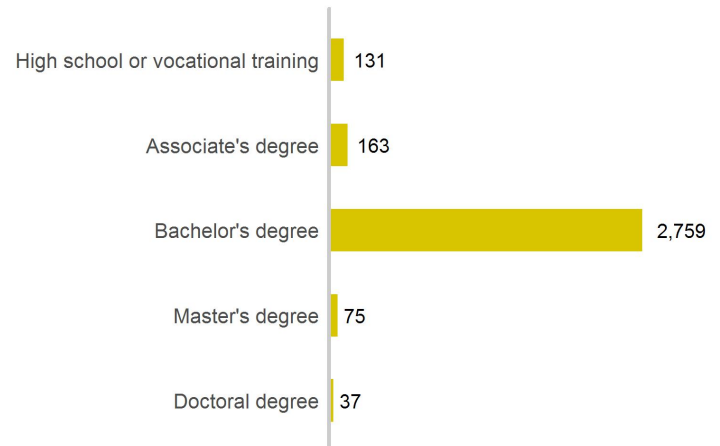
87%
of ads request bachelor's
degree

Information Technology Educational Attainment Required

Of the 4,620 IT job postings that specified a desired experience level during Q2 2017, 84 percent were available to workers with under five years of experience. Most of those postings request three to five years, perhaps reflecting the high number of openings for project managers. Entry level experience represents the second highest proportion of job ad criteria.

Educational requirements were less flexible: 87 percent of postings that reported minimum education require a bachelor's degree. The premium put on education over experience illustrates that workers willing to pursue the necessary education will find ample opportunity in IT-related fields.

Educational Attainment

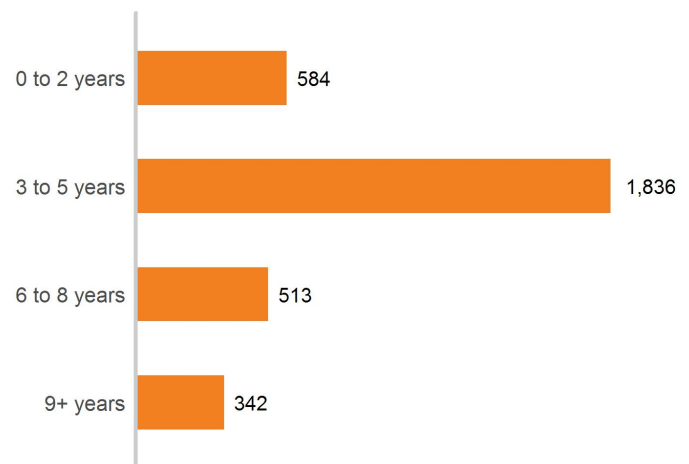


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Computer Science
- Engineering, General
- Business Administration and Management, General
- Information Technology
- Electrical and Electronic Engineering Technologies

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Knowledge areas:
Computer Science, Engineering

82%
of advertised salaries
> \$75,000 per year

Information Technology In-Demand Skills

IT occupations require highly technical software proficiency, reflecting the high-levels of education for entry. WIN region employers hiring during Q2 2017 sought prowess with specific applications like SQL, JAVA, and software engineering. These employers also sought candidates with the ability to effectively problem solve, conduct research, and communicate their solutions to clients.

Technical In-Demand Skills

- SQL
- Software Development
- JAVA/ JavaScript/ Oracle
- Project Management
- Information Systems

Foundational In-Demand Skills

- Communication Skills
- Problem Solving/ Research
- Writing
- Planning/ Creativity
- Troubleshooting

Job Type

- Full-time: 41.1%
- Part-time: 1.1%
- Temporary: 2.2%

Certifications Required

- Certified Information Systems Security Professional (CISSP)
- Project Management Certification (E.G. PMP)
- Certified Information Systems Auditor (CISA)
- Security Clearance
- Microsoft Certified Professional (MCP)



CISSP, PMP
certifications in demand



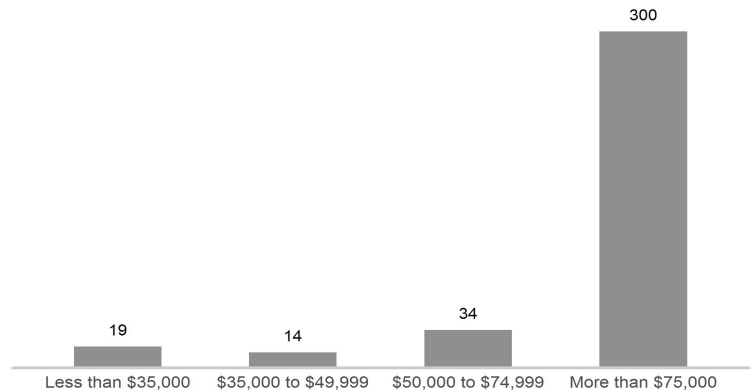
\$101,000:
Average advertised salary

Information Technology Wages and Advertised Salary

Advertised salaries for IT occupations during Q2 2017 were typically above \$75,000 per year, with 82 percent of postings in this category and a mean real-time salary of \$101,000. The high salaries despite modest experience requirements makes IT a lucrative field in Detroit for those willing to pursue the necessary education for entry.

Advertised Salary in Job Postings

Quarter 2 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

Occupation Code	Occupation Name	10th Percentile Wages	25th Percentile Wages	Median Wages	75th Percentile Wages	90th Percentile Wages
15-1132	Software Developers, Applications	\$26.50	\$34.01	\$44.19	\$55.90	\$67.01
15-1199	Computer Systems Engineers/Architects	\$20.50	\$27.02	\$39.16	\$50.06	\$58.93
15-1121	Computer Systems Analysts	\$26.65	\$33.23	\$42.35	\$51.60	\$61.94
15-1199	Information Technology Project Managers	\$20.50	\$27.02	\$39.16	\$50.06	\$58.93
15-1134	Web Developers	\$20.61	\$24.62	\$30.13	\$39.67	\$47.18
15-1199	Business Intelligence Analysts	\$20.50	\$27.02	\$39.16	\$50.06	\$58.93
15-1141	Database Administrators	\$25.92	\$33.03	\$43.45	\$52.83	\$60.87
15-1142	Network and Computer Systems Administrators	\$22.70	\$28.68	\$37.59	\$46.64	\$54.66
15-1122	Information Security Analysts	\$24.74	\$30.48	\$40.71	\$51.31	\$62.38
15-1151	Computer User Support Specialists	\$12.62	\$15.76	\$21.74	\$28.78	\$37.29

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Custom Occupation Group

WIN's Information Technology (IT) occupation group looks at workers tasked to work with and develop programs, websites, and other computer system processes. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code	Occupation
-----------------	-------------------

11-3021	Computer and Information Systems Managers
15-1111	Computer and Information Research Scientists
15-1121	Computer Systems Analysts
15-1122	Information Security Analysts
15-1131	Computer Programmers
15-1132	Software Developers, Applications
15-1133	Software Developers, Systems Software

SOC Code	Occupation
-----------------	-------------------

15-1134	Web Developers
15-1141	Database Administrators
15-1142	Network and Computer Systems Administrators
15-1143	Computer Network Architects
15-1151	Computer User Support Specialists
15-1152	Computer Network Support Specialists
15-1199	Computer Occupations, All Other



Skilled Trades & Technicians Occupation Group (Manufacturing Focused)

Introduction

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.

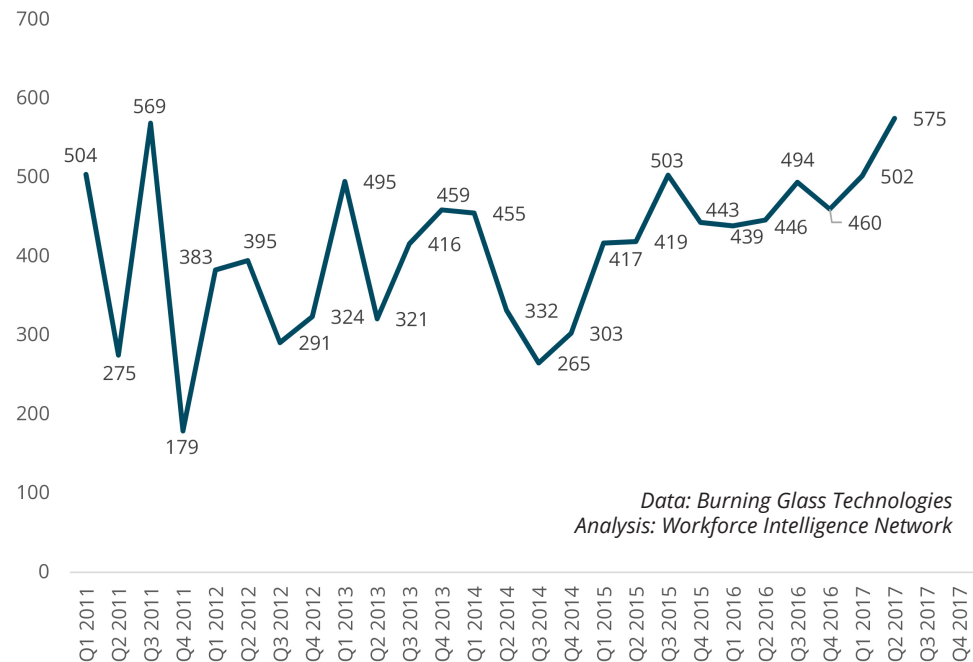
Job Posting Analysis

Online job ads for Skilled Trades increased substantially by 14.5 percent to 575 postings during Q2 2017 following relatively flat posting performance throughout 2016. Q2 job demand is at its peak within the last several years, edging out the previous high of 569 postings in Q3 2011. Since Q2 2016, Skilled Trades occupation job ads are up 31 percent (136 postings).

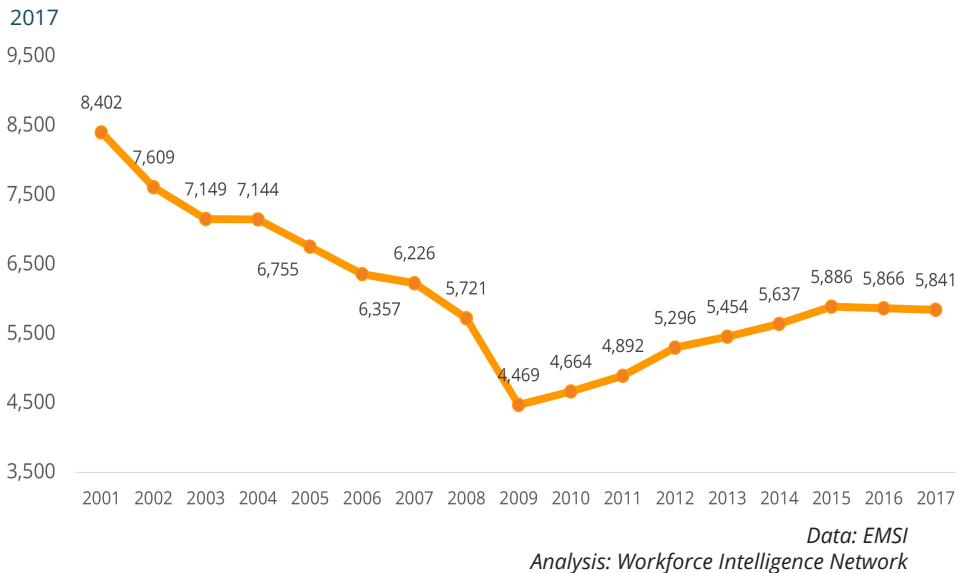
Employment Analysis

Employment in Skilled Trades declined steeply between 2001 and 2009, but has seen some improvement since the Recession low of 4,469 employed workers. Employment levels recently have been declining slightly, with only 5,841 workers in Skilled Trades during 2017 compared to the 5,866 workers last year

Online Job Postings



Employment Over Time





First-Line Supervisors of Production Workers: top job

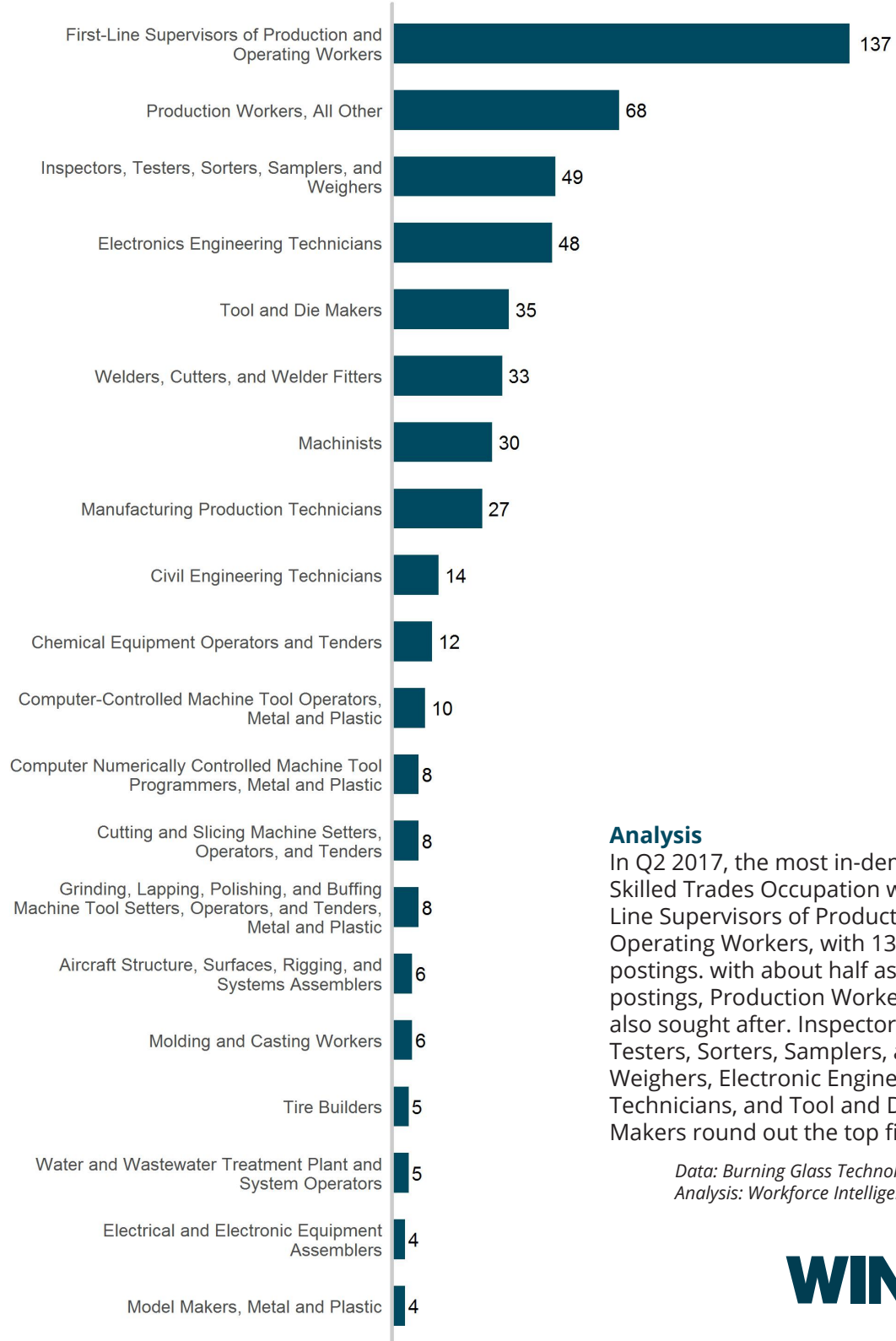


Vocational Training Preferred

Skilled Trades & Technicians

Top Jobs Posted

Quarter 2 2017



Analysis

In Q2 2017, the most in-demand Skilled Trades Occupation was First-Line Supervisors of Production and Operating Workers, with 137 postings. with about half as many postings, Production Workers were also sought after. Inspectors, Testers, Sorters, Samplers, and Weighers, Electronic Engineering Technicians, and Tool and Die Makers round out the top five.

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



3 to 5 years experience
desired

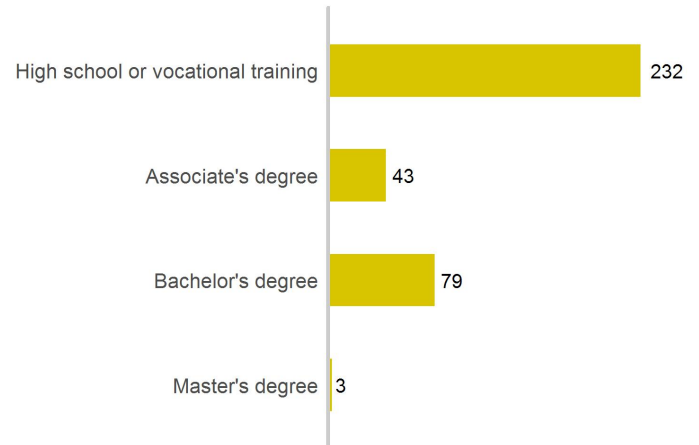
15%
increase in Skilled Trades
related postings

Skilled Trades & Technicians Educational Attainment Required

Desired experience levels vary greatly among skilled trades occupations. The most requested level was three to five years, with 45 percent of specified experience in this range, but entry level positions represent another forty percent. The rest would like very experienced workers.

Education requirements are not as variable. A majority (65 percent) of job postings required only a high school diploma or, more commonly, vocational training. The low educational requirements in the Skilled Trades occupations make many positions accessible to entry-level workers willing to put time into on the job training and practice.

Educational Attainment

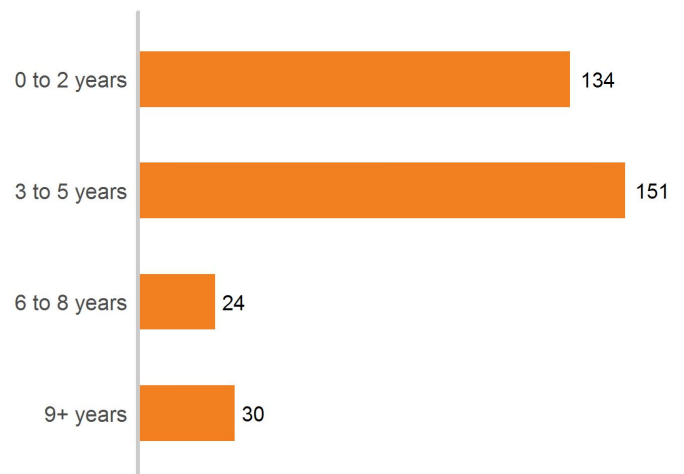


Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

In-Demand Area of Study

- Engineering , General
- Electrical and Electronic Engineering Technologies
- Mechanical Engineering
- Business Administration and Management, General
- Computer Science

Experience Required



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network



Top knowledge area:
Engineering

52%
of jobs advertise full-time
employment

Skilled Trades & Technicians In-Demand Skills

Skilled Trades occupations mainly require manufacturing focused skills and specific tool proficiencies. Employer demand for skills such as CNC milling and repair abilities showcases the technical nature of these positions. Workers will also need more general skills like physical ability, mathematics and effective communication to succeed in the workplace.

Technical In-Demand Skills

- Computer Numerical Control (CNC)
- Repair/ Inspection
- Hand Tools
- Machining, Welding
- Supervisory Skills

Foundational In-Demand Skills

- Ability to Perform Physical Labor
- Mathematics
- Communication Skills
- Preventative Maintenance
- Computer Skills

Job Type

- Full-time: 52.2%
- Part-time: 2.6%
- Temporary: 4.0%

Certifications Required

- Commercial Driver's License
- Certified Registered Central Service Technician
- Civil Service Certification
- Computer Aided Design (CAD) Certification
- HAZWOPER



CDL, Central Service Technician: Certifications in-demand



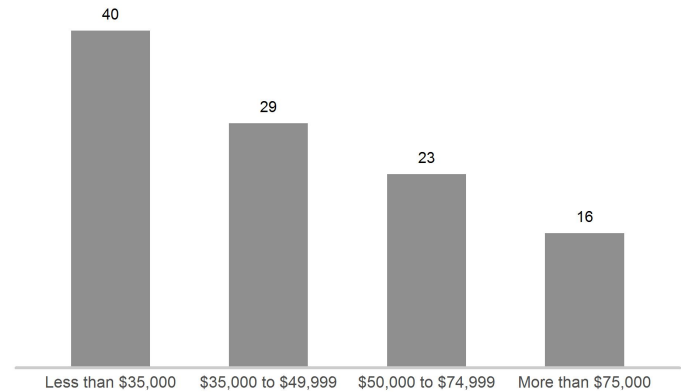
Average advertised salary:
\$51,000

Skilled Trades & Technicians Wages and Advertised Salary

Skilled Trades are among the lowest paid occupations across southeast Michigan. Thirty-seven percent of advertised salaries in the Skilled Trades in Q2 2017 were below \$35,000 per year. The mean advertised salary was \$51,000 annually, although this may reflect the high number of entry-level jobs represented in online job postings. Wage data from the BLS, shown below, reports that all ten of the top ten in-demand Skilled Trades jobs during Q2 2017 have median wages over \$15 per hour with strong growth potential following additional experience.

Advertised Salary in Job Postings

Quarter 2 2017



Data: Burning Glass Technologies
Analysis: Workforce Intelligence Network

Wage Data from Bureau of Labor Statistics 2016

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	\$18.54	\$24.31	\$32.07	\$43.07	\$50.95
51-9199	Production Workers, All Other	\$10.95	\$15.26	\$17.59	\$20.07	\$23.58
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$9.44	\$11.27	\$16.06	\$23.75	\$30.32
17-3023	Electronics Engineering Technicians	\$18.76	\$24.87	\$30.61	\$35.40	\$39.80
51-4111	Tool and Die Makers	\$18.26	\$23.23	\$29.30	\$34.58	\$37.97
51-4121	Welders, Cutters, and Welder Fitters	\$14.30	\$16.45	\$19.05	\$24.28	\$33.06
51-4041	Machinists	\$13.62	\$16.54	\$20.88	\$25.71	\$30.74
17-3029	Manufacturing Production Technicians	\$16.31	\$19.97	\$28.40	\$37.26	\$46.21
17-3022	Civil Engineering Technicians	\$14.48	\$17.06	\$21.53	\$26.55	\$30.26
51-9011	Chemical Equipment Operators and Tenders	\$14.98	\$18.74	\$23.83	\$32.35	\$37.40

Data: EMSI, BLS
Analysis: Workforce Intelligence Network

Custom Occupation Group

The Skilled Trades Occupations group encompasses many workers within technical fields and manufacturing. With the automotive industry presence in Southeast Michigan, the Skilled Trades occupation group covers many local workers. The following occupations are used by WIN researchers to provide custom analysis: The Workforce Intelligence Network for Southeast Michigan should be cited any time the analysis, graphics, or custom occupation group from this report are used.

SOC Code Occupation

11-3051	Industrial Production Managers
17-3021	Aerospace Engineering and Operations Technicians
17-3022	Civil Engineering Technicians
17-3023	Electrical and Electronics Engineering Technicians
17-3024	Electro-Mechanical Technicians
17-3025	Environmental Engineering Technicians
17-3026	Industrial Engineering Technicians
17-3027	Mechanical Engineering Technicians
17-3029	Engineering Technicians, Except Drafters, All Other
17-3031	Surveying and Mapping Technicians
51-1011	First-Line Supervisors of Production and Operating Workers
51-2021	Coil Winders, Tapers, and Finishers
51-2041	Structural Metal Fabricators and Fitters
51-2091	Fiberglass Laminators and Fabricators
51-3099	Food Processing Workers, All Other
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic
51-4012	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4022	Forging Machine Setters, Operators, and Tenders, Metal and Plastic
51-4023	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4033	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic

SOC Code Occupation

51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4035	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
51-4041	Machinists
51-4051	Metal-Refining Furnace Operators and Tenders
51-4052	Pourers and Casters, Metal
51-4061	Model Makers, Metal and Plastic
51-4062	Patternmakers, Metal and Plastic
51-4071	Foundry Mold and Coremakers
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
51-4111	Tool and Die Makers
51-4121	Welders, Cutters, Solderers, and Brazers
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
51-4192	Layout Workers, Metal and Plastic
51-4193	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
51-4194	Tool Grinders, Filers, and Sharpeners
51-4199	Metal Workers and Plastic Workers, All Other
51-5111	Prepress Technicians and Workers
51-9199	Production Workers, All Other

Annual Labor Market Data

	2010 Annual	2011 Annual	2012 Annual	2013 Annual	2014 Annual	2015 Annual	2016 Annual	2017 Annual (Thru 2nd Quarter)	Change from 2016	Percent Change from 2016
Labor Force	276,884	261,343	257,730	256,910	249,786	241,774	245,014	246,197	1,183	0.5%
Employment	208,289	206,226	208,119	208,352	209,599	213,234	218,295	222,824	4,529	2.1%
Unemployment	68,596	55,117	49,611	48,558	40,187	28,541	26,720	23,374	-3,346	-12.5%
Unemployment Rate	24.8%	21.1%	19.2%	18.9%	16.1%	11.8%	10.9%	9.5%	-1.4%	na

**Note: Monthly data averaged by year*

Data: Bureau of Labor Statistics

Quarterly Labor Market Data

	2nd Quarter 2016	3rd Quarter 2016	4th Quarter 2016	1st Quarter 2017	2nd Quarter 2017	Change from 1st Quarter 2017	Percent Change from 1st Quarter 2017	One-Year Change from 2nd Quarter 2016	One-Year Percent Change from 2nd Quarter 2016
Labor Force	241,889	250,404	245,517	249,292	243,103	-6,189	-2.5%	1,214	0.5%
Employment	217,336	219,430	219,797	220,501	223,854	3,353	1.5%	6,518	3.0%
Unemployment	24,553	30,974	25,720	28,791	19,249	9,542	37.1%	-5,305	-21.6%
Unemployment Rate	10.2%	12.4%	10.5%	11.5%	7.9%	3.6%	na	-2.2%	na

**Note: Monthly data averaged by quarter*

Data: Bureau of Labor Statistics












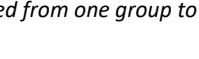
Monthly Labor Market Data

	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017	June 2017
Labor Force	238,767	241,048	245,852	250,986	250,569	249,656	249,306	243,534	243,710	249,773	250,332	247,771	243,532	242,920	242,856
Employment	216,471	217,944	217,592	218,535	219,172	220,583	219,660	219,848	219,883	218,947	220,348	222,209	223,133	224,634	223,795
Unemployment	22,296	23,104	28,260	32,451	31,397	29,073	29,646	23,686	23,827	30,826	29,984	25,562	20,399	18,286	19,061
Unemployment Rate	9.3%	9.6%	11.5%	12.9%	12.5%	11.6%	11.9%	9.7%	9.8%	12.3%	12.0%	10.3%	8.4%	7.5%	7.8%

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

Data: Bureau of Labor Statistics












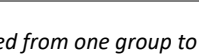
City of Detroit Job Posting Data by Occupation Group* Over Time

	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Change Over Time	Annual Change Q2 2016-Q2 2017	Quarter Growth Q1 2017-Q2 2017
Total Postings	28,456	29,905	27,288	28,238	31,757		11.6%	12.5%
Agriculture	384	351	384	386	434		13.0%	12.4%
Business & finance	2,300	2,411	2,310	2,276	2,613		13.6%	14.8%
Construction	215	261	253	235	304		41.4%	29.4%
Customer service	5,240	5,415	4,888	5,044	5,422		3.5%	7.5%
Education	413	391	538	491	629		52.3%	28.1%
Energy	129	87	79	123	98		-24.0%	-20.3%
Engineers & designers	1,057	1,273	977	1,001	1,140		7.9%	13.9%
Health care	5,123	5,403	5,131	5,702	6,287		22.7%	10.3%
Information technology	4,285	4,375	3,795	3,711	4,620		7.8%	24.5%
Skilled trades & technicians	446	494	460	502	575		28.9%	14.5%
Transportation, distribution, and logistics	1,652	1,704	1,541	1,339	1,495		-9.5%	11.7%

**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.*

Data: Burning Glass Technologies
Analysis: Workforce Intelligence Networ

Job Posting Data by Occupation Group* Over Time

	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Change Over Time	Annual Change Q2 2016-Q2 2017	Quarter Growth Q1 2017-Q2 2017
Total Postings	139,765	149,379	141,413	160,628	161,940		15.9%	0.8%
Agriculture	1,835	1,776	1,660	2,447	2,407		31.2%	-1.6%
Business & finance	9,011	9,044	9,335	9,966	9,862		9.4%	-1.0%
Construction	1,281	1,492	1,219	1,472	1,657		29.4%	12.6%
Customer service	30,303	34,218	33,345	35,398	35,837		18.3%	1.2%
Education	2,114	3,034	3,150	2,613	2,675		26.5%	2.4%
Energy	272	259	240	328	279		2.6%	-14.9%
Engineers & designers	9,454	8,977	7,941	9,180	8,646		-8.5%	-5.8%
Health care	17,880	20,099	19,607	25,381	26,234		46.7%	3.4%
Information technology	17,335	16,966	14,646	16,083	16,378		-5.5%	1.8%
Skilled trades & technicians	4,503	4,755	4,797	5,947	5,559		23.5%	-6.5%
Transportation, distribution, and logistics	11,380	13,548	10,144	10,551	11,942		4.9%	13.2%

**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.*

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