# InterLink 2016 ~ 2021 Labor Market Survey Report

By North Central Texas Employers

The information included in this document was the result of North Central Texas employers who responded to the 29<sup>th</sup> InterLink Annual Labor Market Survey, which is used to develop a list of high skill, high wage, high demand occupations to be used for program planning and career and college counseling by public schools and colleges in the

North Central Texas Region



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## 2016 Outlook for the Texas Economy

Over the past year, Texas added jobs in 7 of the 11 major industries, including professional and business services, trade, transportation and utilities, leisure and hospitality, education and health services, construction, financial activities, and other services.

Pre-recession Texas employment peaked at 10,639,900 in August 2008, a level that was surpassed in November 2011, and by January 2016 Texas added an additional 1,322,600 jobs. The Texas unemployment rate has been at or below the national rate for 110 consecutive months.

The U.S. recovered all recession-hit jobs by April 2014 and by January 2016 added an additional 4,856,000 jobs.

Texas and the nation returned to economic growth in 2010, 2011, and 2012. In calendar 2014, Texas real gross domestic product grew by 5.2 percent, compared with 2.39 percent for the U.S. Oil and natural gas production tax collections for the first seven months of fiscal 2016 were 50 percent lower than collections during the same period in 2015.

## Purpose of the InterLink Annual Survey

In 1987, a group of North Central Texas business and education visionaries believed that students should be prepared for future high skill careers. They created North Central Texas InterLink, Inc. as a nonprofit, 501c 3 organization to provide long term regional labor market information to secondary and post- secondary education districts for career and technology program planning and development, and student career and college counseling. Since then, these education systems have consistently used InterLink's information. Their students benefit by having high skills and knowledge for further education, training, and careers, and employers in the sixteen county North Central Texas Region benefit from this

initiative by having a quality workforce, with a globally competitive advantage, which supports the region's economic development initiatives for a strong quality of life.

InterLink's success is attributed to the number of educators and employers who contribute to InterLink by serving on the board of directors, responding to the annual survey, allowing us to participate with business webinars and visit their facilities to understand the use of current and future technology and skill needs and being involved in many other ways through the past 29 years. We couldn't provide this

service to the regional educators without them.

#### **About the Survey:**

The survey instrument is designed so that the questions are impartial. Until 2005, the survey asked respondents to forecast their employment needs ten years into the future, while today businesses are challenged to respond to the request for a five year forecast.

The InterLink Industry Survey Task Force will upon occasion make revisions to the survey by asking questions of interest to the educators or business task force members. The labor market survey questions are proven to be effective for our needs and embraced by the respondents. The questions were designed specifically to determine the high skill and high wage occupations that will be in demand in North Central Texas and may not apply to other areas of the state or nation.

The results of the survey and research help educators and counselors create a vision for students. Career and Technical Education programs are implemented to help prepare students for careers employers have identified to be in demand, while advising them on career paths and endorsements that are required by the Texas Legislature, to prepare them for successful futures.

### The survey consists of the following nine

- 1. The following information (Name, Title, Company, Email address and County) will be used for data control and will be treated as confidential. Respondents will receive the complete survey report at the email address listed below.
- 2. Indicate the Industry that best describes your business or organization.
- 3. The following occupations listed alphabetically, were most often mentioned in past InterLink surveys. Scroll down the list and mark only those occupations with the estimated number you may need to hire in the next 5 years. If a job title is missing from this list you will be able to include it later in the survey.
- 4. Indicate below any occupations not mentioned above, and the number that you might need to hire in the next five years. Be specific and avoid general industry clusters. List as many occupations as you want.
- 5. Technology and changing business practices may affect the way work is performed. Other than those listed above, provide any emerging (new) or evolving (changing) occupations in your company or industry of which we should be aware. List as many as you want
- 6. The following workplace basic skills and attributes have been identified for entry level workers. Check all that apply to your entry level workforce needs.
- 7. What licenses or certification(s) would an entry level worker need to be qualified for your industry?

## **Survey Distribution and Response**

The survey was conducted online through a survey web hosting site and when requested, through direct email with a word document survey that could be returned directly to InterLink. InterLink directly distributed 2,000 surveys to employers throughout the 16 county region. A total of 1327 respondents participated in the survey online by return email or mail for a total of 66.35% compared to 57% in 2015.

Those surveyed are solicited from a sample of public and private employers throughout InterLink's sixteen county North Central Texas service region which includes a number of companies who have participated in the survey since its inception which are considered benchmarks for the survey. Also included in the survey are county and municipal governments, business and trade associations, secondary and post-secondary education institutions, utility companies, economic developers, and regional chambers of commerce.

Professional organizations and chambers of commerce throughout the region distributed the survey to their membership for participation. We particularly want to thank the following organizations that include InterLink's Survey in their annual initiatives: Fort Worth Chamber, Garland Chamber, Greater Dallas Restaurant

Association, Independent Electrical Contractors (IEC) - Fort Worth/Tarrant County, Metroplex Technology Business Council (MTBC), North Texas Commission, Richardson Chamber, TEXO, and Workforce Solutions of North Central Texas, Workforce Solutions of Tarrant County which also assisted with regional data which InterLink was able to use as a labor market measurement to the survey.

If you are a survey respondent and the numbers of responses in this report appear fewer than your input indicated, it is likely that another source from your company or organization responded and upon validation with the sources, we were careful not to duplicate the numbers.

We appreciate the employers who participated with the Survey. In return, we hope to inform educators, students and the residents of North Central Texas of the career opportunities listed by employers in this report. Although not all of the occupations mentioned in the survey meet the criteria for inclusion on the targeted list, each occupation that was reported appears in this document and is considered to be important for employment potential, and through this report, the information will be share with all educators.

## **Forecasting the Targeted Occupations**

Occupations included on the InterLink Targeted Occupations list were carefully chosen by InterLink's decision-makers. The regional wisdom provided by employers who responded to the InterLink Survey supplements regional, state, and federal labor market data, and is developed into a justifiable plan. InterLink gauges the potential for occupations to remain viable for future employment by measuring them against factors which are considered to be primary causes for changes in workforce. The most measurable factors include: growing use of computers and other automation and technological changes; changes in business practices; demographic trends; changes in the way medical care is provided; trends in law, law enforcement, and government regulations and; offshoring and outsourcing of jobs and people.

InterLink's Targeted Occupations list is developed using criteria identified for the Texas Workforce Commission and Texas Education Agency.

After the projected regional industry employment demand is determined, InterLink begins the Targeting Process. Targeted Occupations are those which meet the State criteria and which employers,

through InterLink's Regional Survey indicate to be in high demand or critical need. The process used to identify Targeted Occupations is discussed in the Methodology Section of this report.

The InterLink Targeted and Emerging and Evolving Occupations list on pages 31-32 and a brochure provided to educators and available on InterLink's website (www.interlink-ntx.org) arranges the Targeted Occupations in clusters identified by the State's Achieve Texas Career Cluster Initiative (www.careerclusters.org) which identifies sixteen broad clusters industries) within which most occupations fit. These clusters are: 1) Agriculture, Food & Natural Resources, 2)Architecture & Construction, 3)Arts, A/V Technology & Communications, 4)Business, Management & Administration, 5) Education & Training, 6) Finance, 7) Government & Public 8) Health Science, 9) Administration. Hospitality & Tourism, 10) Human Services, 11) Information Technology, 12) Law, Public Safety, Corrections & Security, 13) Manufacturing, 14) Marketing, Sales & Service, 15) Science, Technology, Engineering & Mathematics, and 16) Transportation, Distribution & Logistics.

## Findings of the 2016 Targeted Occupations Survey

It is not unusual for occupations to reappear on InterLink's annual targeted lists for several years due to continuous regional future demand.

The absence of a career on InterLink's Occupation List Targeted does necessarily mean that the career does not have good potential for future employment. It could be that it was not identified by employers as a high skill, high demand, or high wage opportunity, or, perhaps it did not meet the criteria set out by the Texas Education Agency which meets the Federal Government guidelines for high skill, high demand, and high wage opportunities. This report offers educators the opportunity to view all occupations suggested in the survey as well as those occupations that are not on the targeted list.

InterLink continues to focus on emerging and evolving industries and occupations and the future job opportunities they might provide in the future. Through InterLink's Industry **Trends** Task Force. practitioners and thought leaders from industries specific attend full day, professionally facilitated, workshops to forecast trends and skill and knowledge needs. This helps InterLink forecast future occupations by combining the information with the InterLink Labor Survey. results help identify the future occupation opportunities which are included in the InterLink Targeted Occupations List for

consideration of future skill development and employment opportunities.

The intuitive sense of the occupations on this list is supported when it is possible to triangulate from a number of independent sources that all point to the same conclusion.

Texas State Technical College in Waco identifies emerging occupations that are expected to be in demand in the future. Also, the Bureau of Labor Statistics O\*NET department identifies emerging occupations, assigning them identification codes as they become mainstream.

InterLink is fortunate to have industry expertise to review the survey results and assist with the selection of the final Targeted Occupations List. InterLink's industry advisors keep us informed on current employment needs and through InterLink Industry Future Task Force, future industry trends that may impact the dynamic workforce are identified which help us understand changes occurring in the workforce. It is as important to be aware of indicators that may change the future workforce as it is to understand the past history of the workforce. InterLink's Board of Directors and advisors assist us in looking toward the future.

InterLink's Future Industry Trends Reports may be downloaded on our website at www.interlink-ntx.org

## The InterLink Labor Market Region

InterLink works with school and college districts in the sixteen counties of North Central Texas which correlate with the service area of the North Central Texas Council of Governments. The region includes: Collin, Dallas, Denton, Ellis, Erath, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant and Wise counties. As seen on the following map, 28% of the workforce in the 16 County Region is transient, driving outside of the county in which they live to work. The other 72% of the workforce works within the county in which they live.

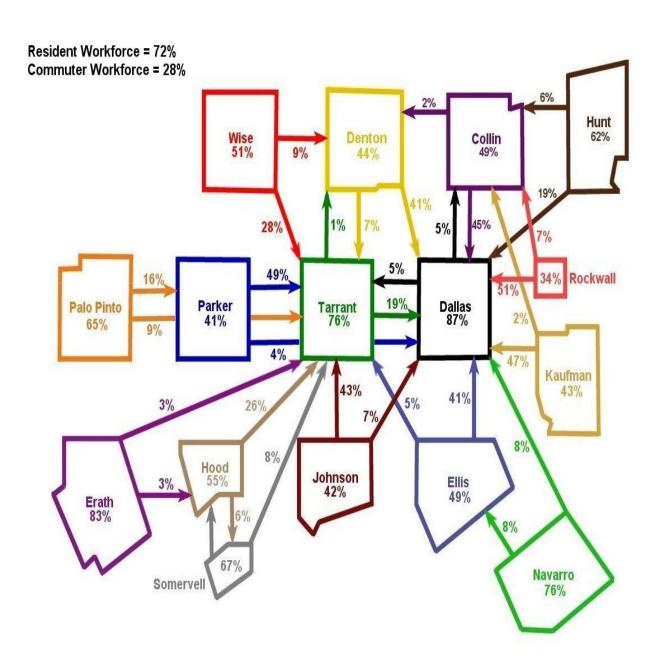
InterLink provides labor market services to the school districts in the above counties as well as counties served by the Region 10 Education Service Center Career and Technical Perkins Consortium, which includes the InterLink service area and Fannin, Grayson, Jasper and Van Zandt Counties. Region 11 Education Service Center Career and Technical Perkins Consortium also uses InterLink's Labor Market Services, which provides services to school districts in InterLink's service areas as well as Cooke County.

The InterLink Survey is distributed to employers throughout the 16 county region to capture a snapshot of the regional workforce. The resulting Targeted Occupation information is provided to the 148 school districts through their Career and Technical Departments and 28 college campuses in the region, which they use for planning of Career and Technical programs and curriculum.

It makes sense to educate for a regional workforce because as shown in the Regional Commuter Pattern Graphic on the following page, the employer/employee base is transient throughout these counties resulting in North Central Texas being a regional workforce.

## **DFW Regional Commute Patterns**

Reflecting people who work outside the county in which they live, which indicates the need to plan for a regional workforce.



## Responses to Question 2~ Industry Cagetory

Question 1: (Identification - Responses not shown due to confidentiality.)

The following information will be used for data control and will be treated as confidential:

Province of the confidential in the

Participant's name, company, address, city, or town, state, zip code, county, and email address.

Question 2: Indicate the industry that best describes your business organization.

Respondents by Industry	Response Percent	Response Count N= 1327 57% return
Agriculture/Food/Natural Resources	37	2.79%
Architecture/Construction	96	7.23%
Arts/Audio Visual Technology/Media		
Communications	52	3.92%
Business/Management/Administration/Non Profit	114	8.59%
Education/Training	122	9.19%
Finance/Insurance/Real Estate	84	6.33%
Government/Public Administration	61	4.60%
Health Science/Medicine	117	8.82%
Hospitality/Tourism	113	8.52%
Human Services	32	2.41%
Information Technology/Telecommunications	74	5.58%
Law/Public Safety/Corrections/Security	24	1.81%
Manufacturing	91	6.86%
Marketing/Sales/Service	76	5.73%
Retail sales	78	5.88%
Science/Technology/Engineering/Mathematics	111	8.36%
Transportation/Distribution/Logistics including Automotive/Air/Rail	45	3.39%

Note: InterLink placed respondents who did not know their industry into the appropriate category

# Responses to Questions 3 and 4 Listed Alphabetically

Similar responses were combined

Question 3: The following occupations listed alphabetically, were most often mentioned in past InterLink surveys. List the number of employees you may need to hire in the next 5 years. Mark only those occupations that apply to your need. If a job title is missing from this list you will be able to include it later in the survey.

Question 4: List any occupations that you project to be hiring in the next five years, and the numbers that might be needed. Feel free to add more lines Bad example: Health Careers -5, Good example: Registered Nurses -5.

(Note: A "0" indicates no demand number was provided)

3-D Artist/Animator/Gaming Technician	32
A&P Airframe and Powerplant	
Mechanic/Technician	82
Account Executive	0
Account Managers-Insurance	5
Accountant	461
Administrative Assistant - Dental Office -	
2, Finance - 5	14
Adult Day Care Workers	176
Advanced Digital Mfg. (ADM)	
Technician	12
Advanced Manufacturing Specialists	17
Advertising & Sales Mgr.	77
Air Traffic Controllers	110
Analytics Specialist	21
Architect	48
Artificial Intelligence	5
Assembler	32
Attorney/Lawyer	303
Auditor	84
Automotive Body Technician	175
Automotive Repair Service Technician	710
Banquet Server	9
Bartender	56
Benefits Consulting - Insurance	7

Billing Specialist	1
Biochemists	4
Biological Lab Technician	12
Bookkeeper	115
Building Information Systems managers	20+
Bus Drivers	29
Business Analyst, Data Analytics, Project Managers	0
Business Intelligence Analyst	44
Busser	15
Cabling Technician	8
Call Center Representative	0
Carpenter	29
Case workers - youth specialist	0
Casework Supervisor	1
Certified Financial Planner	17
CFO - Manufacturing	2
Channel Marketing Manager	0
Chef or Head Cook	340
Chemical Operator	4
Chief Science Officer	0
Clerical assistance- postsecondary education	0
Cloud Architect	0
Cloud Engineer	0

CNC Manufacturing Technician  College Prep Advisor  Commercial bankers - Seasoned  Commercial Insurance Account Managers  Commercial Lenders - Seasoned  Commercial Loan Administrative  Assistant  Composite Technician (Bond Assembler)  Computer & Digital Forensics Technician  Computer Maintenance Technician  Computer Programmer  Computer Security Specialist  Computer Systems Analyst  Construction Manager/Inspector  Construction Project Engineer  Construction Project Superintendent  Convergence Technology Specialist or Technician  15 Convergence Technology Specialist or Technician  Construction Project Superintendent  Convergence Technology Specialist or Technician  Cool Manufacturing,  1 Cool Manufacturing,  1 Cool Restaurant
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Crater/Packer 100
Curriculum Developers/Coordinators 0
Customer Service Associates 250
Customer Service Rep 9
Customer Service/Sales Representative 12
Cyber Security Architect 17
Cyber Security Engineer 29
Cyber-Security Specialist 180
Data Analyst 75
Deep Learning 3
Desktop Support Analyst 20
Development Coordinator 1
Development Manager 1
Development Specialist 2
Diagnostic Imaging Specialist 14
Diagnostic Medical Sonographer 111
Diesel/Bus/Truck Engine Technician 7
Direct Care Specialist (works w/disabled individuals) 0
Director 1

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Engineer Computer System Software Engineer Electrical Engineer Electronic (Except Computer) Engineer Industrial Engineer Mechanical Engineer Mechanical Engineer Network Engineer Petroleum Engraving specialist - knowing Coral Draw O Environmental Engineer Environmental Health and Safety positions, Industrial Estimator Event Coordinator Event Manager Executive Assistant Financial Managers Fire Fighter Food Runner Food Service Manager Forklift Operators Formulator/ Product Innovation Garage Door Service Technician	-	
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Engineer Electronic (Except Computer)  Engineer Industrial  Engineer Mechanical  Engineer Network  Engineer Petroleum  Engraving specialist - knowing Coral Draw  Environmental Engineer  Environmental Health and Safety positions,  Environmental Scientist  Estimator  Event Coordinator  Event Manager  Executive Assistant  Financial Managers  Fire Fighter  114  Food Runner  Food Server - Professional  Forklift Operators  Formulator/ Product Innovation  Garage Door Service Technician  23  Engineer Industrial  44  44  Engineer Mechanical  23  44  Engineer Mechanical  23  Engineer Network  16  Engineer Network  16  Engineer Network  10  10  11  12  13  14  15  16  17  18  19  19  10  10  10  10  10  10  10  10		23
Engineer Industrial44Engineer Mechanical23Engineer Network16Engineer Petroleum4Engraving specialist - knowing Coral Draw0Environmental Engineer6Environmental Health and Safety positions,12Environmental Scientist1Estimator2Event Coordinator2Event Manager1Executive Assistant2Financial Managers238Fire Fighter114Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2		17
Engineer Mechanical23Engineer Network16Engineer Petroleum4Engraving specialist - knowing Coral Draw0Environmental Engineer6Environmental Health and Safety positions,12Environmental Scientist1Estimator2Event Coordinator2Event Manager1Executive Assistant2Financial Managers238Fire Fighter114Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Engineer Electronic (Except Computer)	5
Engineer Network16Engineer Petroleum4Engraving specialist - knowing Coral Draw0Environmental Engineer6Environmental Health and Safety positions,12Environmental Scientist1Estimator2Event Coordinator2Event Manager1Executive Assistant2Financial Managers238Fire Fighter114Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Engineer Industrial	44
Engineer Petroleum4Engraving specialist - knowing Coral Draw0Environmental Engineer6Environmental Health and Safety positions,12Environmental Scientist1Estimator2Event Coordinator2Event Manager1Executive Assistant2Financial Managers238Fire Fighter114Food Runner10Food Service - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Engineer Mechanical	23
Engraving specialist - knowing Coral Draw 0  Environmental Engineer 6  Environmental Health and Safety positions, 12  Environmental Scientist 1  Estimator 2  Event Coordinator 2  Event Manager 1  Executive Assistant 2  Financial Managers 238  Fire Fighter 114  Food Runner 10  Food Server - Professional 298  Food Service Manager 631  Forklift Operators 75  Formulator/ Product Innovation 0  Garage Door Service Technician 2	Engineer Network	16
Draw         0           Environmental Engineer         6           Environmental Health and Safety positions,         12           Environmental Scientist         1           Estimator         2           Event Coordinator         2           Event Manager         1           Executive Assistant         2           Financial Managers         238           Fire Fighter         114           Food Runner         10           Food Server - Professional         298           Food Service Manager         631           Forklift Operators         75           Formulator/ Product Innovation         0           Garage Door Service Technician         2		4
Environmental Health and Safety positions, 12  Environmental Scientist 1  Estimator 2  Event Coordinator 2  Event Manager 1  Executive Assistant 2  Financial Managers 238  Fire Fighter 114  Food Runner 10  Food Server - Professional 298  Food Service Manager 631  Forklift Operators 75  Formulator/ Product Innovation 0  Garage Door Service Technician 2		0
positions,         12           Environmental Scientist         1           Estimator         2           Event Coordinator         2           Event Manager         1           Executive Assistant         2           Financial Managers         238           Fire Fighter         114           Food Runner         10           Food Server - Professional         298           Food Service Manager         631           Forklift Operators         75           Formulator/ Product Innovation         0           Garage Door Service Technician         2	Environmental Engineer	6
Estimator         2           Event Coordinator         2           Event Manager         1           Executive Assistant         2           Financial Managers         238           Fire Fighter         114           Food Runner         10           Food Server - Professional         298           Food Service Manager         631           Forklift Operators         75           Formulator/ Product Innovation         0           Garage Door Service Technician         2	-	12
Event Coordinator2Event Manager1Executive Assistant2Financial Managers238Fire Fighter114Food Runner10Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Environmental Scientist	1
Event Manager1Executive Assistant2Financial Managers238Fire Fighter114Food Runner10Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Estimator	2
Executive Assistant2Financial Managers238Fire Fighter114Food Runner10Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Event Coordinator	2
Executive Assistant2Financial Managers238Fire Fighter114Food Runner10Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Event Manager	1
Fire Fighter114Food Runner10Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2		2
Food Runner10Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Financial Managers	238
Food Server - Professional298Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Fire Fighter	114
Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Food Runner	10
Food Service Manager631Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Food Server - Professional	298
Forklift Operators75Formulator/ Product Innovation0Garage Door Service Technician2	Food Service Manager	631
Formulator/ Product Innovation 0 Garage Door Service Technician 2		75
Garage Door Service Technician 2	-	
		2
		114
Garment Printer 2	•	_
Gear Cutter/ Machine Setup 0		0

General & Operations Manager	169
General Marketing/ Brand Specialists	0
Geographic Information Systems	
(GIS)/Survey and Mapping Technician	16
Geologist	0
Geriatric Service Workers	100
Global Positioning Systems (GPS) Technician	3
Graphic Designer/Web Developer	1
Graphic Designers (CAD)	89
Health Information Technician	1
Healthcare Manager	0
Heating/Air Conditioning/Refrigeration	
Technician (HVAC)	87
Heavy Equipment Operator	150
Home Health Aide	369
Host/Hostess	18
Hostess	27
Hotel Manager	1
Housekeeping	100
Human Resource Generalist	1
Human Resource Manager	1
Human Resource Recruiters	3
Human Resources	2
Human Resources Trainers	0
Human Resources Benefits Specialist	0
Human Resources Compensation Analyst	0
Human Resources Consulting - Insurance	1
Human Resources Directors and HR	0
Managers.	0
Human Resources Diversity Professionals	0
Human Resources Generalists	3
Human Resources HRIS Analysts	0
Human Resources HRIS Managers	3
Human Resources Specialist Human Resources/Organization	0
Development Specialist	2
I do not hire in this position	1
Industrial X-ray Technician	0
Instructional Designer	0
Instrument Technician	1
Insurance Underwriter	1
Interior Designers	21
IT/System Administrator	185
Janitorial/maintenance	2
James I and	

Laborers and Freight, Stock and Material Movers (Hand)  Legal Secretary  Licensed / Certified Notary Public  Licensed Professional Counselors (LPC)  Life Insurance Sales  Light Duty Truck Drivers  Logistics Manager  Machine Operators  Machinist (including CNC)  Mainframe Systems Programmer  Maintenance & Repairer Worker, General  Marketing  Marketing & Social Media Generalist  Marketing & Social Media Expert  Marketing Guru, Social Media Expert  Marketing Manager  Marketing Manager  Marketing Specialist  Material Handler  Material Handler  Material & Clinical Lab  Technician Technologist  Medical & Clinical Lab  Technician Technologist  Medical Palathcare Educator  Medical Technology Specialists  Medical Technology Specialis	Labor/Trainee	1
Legal Secretary29Licensed / Certified Notary Public1Licensed Professional Counselors (LPC)0Life Insurance Sales0Light Duty Truck Drivers37Logistics Manager23Machine Operators0Machinist (including CNC)596Mainframe Systems Programmer5Maintenance & Repairer Worker, General707Maintenance Mechanic0Marketing1Marketing & Social Media Generalist2Marketing Coordinator2Marketing Guru, Social Media Expert0Marketing Manager5Marketing Manager5Material Handler50Material Handler50Mechanic (millwright)0Medical & Clinical Lab1Technician/Technologist145Medical Coding Specialist212Medical Doctor/Physician101Medical Records Technician108Medical Records Technician108Medical Technology Specialists0Medical Transcriptionist0Medical Transcriptionist0Metting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1		185
Licensed / Certified Notary Public1Licensed Professional Counselors (LPC)0Life Insurance Sales0Light Duty Truck Drivers37Logistics Manager23Machine Operators0Machinist (including CNC)596Mainframe Systems Programmer5Maintenance & Repairer Worker, General707Maintenance Mechanic0Marketing1Marketing & Social Media Generalist2Marketing Coordinator2Marketing Director0Marketing Guru, Social Media Expert0Marketing Manager5Marketing Specialist1Material Handler50Materials Analyst4Mechanic (millwright)0Medical & Clinical Lab145Technician/Technologist145Medical Assistant280Medical Coding Specialist212Medical Doctor/Physician101Medical Records Technician108Medical Technology Specialists0Medical Transcriptionist0Medical Transcriptionist0Medical Transcriptionist0Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1		
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Mechanic (millwright)0Medical & Clinical Lab145Technician/Technologist145Medical Assistant280Medical Coding Specialist212Medical Doctor/Physician101Medical Healthcare Educator2Medical Records Technician108Medical Secretary13Medical Technology Specialists0Medical Transcriptionist0Meeting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1		
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Medical Doctor/Physician101Medical Healthcare Educator2Medical Records Technician108Medical Secretary13Medical Technology Specialists0Medical Transcriptionist0Meeting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Medical Assistant	280
Medical Healthcare Educator         2           Medical Records Technician         108           Medical Secretary         13           Medical Technology Specialists         0           Medical Transcriptionist         0           Meeting planners         2           Membership Director         1           Mental Health Counselors         39           Micro-electromechanical Systems         (MEMS) Technician           Mobile Application Developer         9           Multimedia Artists & Animators         126           Music Therapist         1           Nanotechnology Technician         0           NERC Auditor/Analyst         1	Medical Coding Specialist	212
Medical Records Technician108Medical Secretary13Medical Technology Specialists0Medical Transcriptionist0Meeting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Medical Doctor/Physician	101
Medical Secretary         13           Medical Technology Specialists         0           Medical Transcriptionist         0           Meeting planners         2           Membership Director         1           Mental Health Counselors         39           Micro-electromechanical Systems         (MEMS) Technician           (MEMS) Technician         0           Mobile Application Developer         9           Multimedia Artists & Animators         126           Music Therapist         1           Nanotechnology Technician         0           NERC Auditor/Analyst         1	Medical Healthcare Educator	2
Medical Technology Specialists0Medical Transcriptionist0Meeting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Medical Records Technician	108
Medical Transcriptionist0Meeting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Medical Secretary	13
Meeting planners2Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Medical Technology Specialists	0
Membership Director1Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Medical Transcriptionist	0
Mental Health Counselors39Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Meeting planners	2
Micro-electromechanical Systems (MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	Membership Director	1
(MEMS) Technician0Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1		39
Mobile Application Developer9Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	· ·	0
Multimedia Artists & Animators126Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1	`	
Music Therapist1Nanotechnology Technician0NERC Auditor/Analyst1		
Nanotechnology Technician0NERC Auditor/Analyst1		
NERC Auditor/Analyst 1	-	
		-
	Network Architect	43

Network Manager	36
None/NA	274
Nurse Aide/Assistant (CNA)	445
Nurse Licensed Practical/Vocational	119
Nurse Practitioners	0
Nurse Registered	552
Nurse, BSN	265
Nursing Manager	0
Nutritionists/Dietitians	3
Occupational Therapist	12
Occupational Therapist Aide	15
Occupational Therapist Assistant	4
Office Assistant	2
Office Manager	1
Online Marketing Analyst	2
Operations Manager	46
Operations Technician	0
Paralegal/Legal Assistant	28
Patient Care Technician (Certified)	50
Payroll Accountant	0
Payroll clerk - retail	0
Payroll Specialist	2
Pharmacist	10
Pharmacy Technician	23
Photo Retoucher	1
Photo Studio Manager/Assistant	1
Photographer, Office Manager	0
Physical Therapist	45
Physical Therapist Aide	20
Physical Therapist Assistant	20
Physician Assistant	75
Planners	0
Plumber, Pipefitter, Steamfitter	131
Point of Sales Mgr.	0
Police/Sheriffs Patrol Officer	841
Preschool Teacher	36
Price To Win (Competitive Intelligence) Analyst	4
Principal	2
Printing Press Operator	15
Prison Guard	10
Procurement/Contract Specialists	0
Producers - Insurance	2
Production Assistant	2
1 Toduction / Essistant	

Production department personnel	0
Production Labor	0
Production manager	0
Production Supervisor	0
Programs Manager	1
Project Engineer	0
Project Mangers/Estimators	12
Psychiatrists	0
Public Relations Director -	
postsecondary education	0
Public Safety Dispatchers	35
Quality Assurance (QA) Technicians	27
Quality Assurance Testing Manager	32
Quality Engineer	0
Quality Process Coordinator	0
Radiologic Technician/Technologist	22
Recreation specialist	1
Regulatory Analyst	0
Respiratory Therapist (Certified)	25
Respite Home Manager	1
Restaurant - Field Consultants	2
Restaurant manager	44
Retail marketing specialist	7
Retail sales associates	594
Retail sales managers	587
Returns Receivers	64
Rewind Operator	10
Risk Managers	72
Robotics Technician	4
Sales	2
Sales - Insurance	2
Sales Account Executive	1
Sales Associates	577
Sales Manager	23
Sales Producers	4
Sales VP/ Field Development	1
Sales/ Hispanic Director	0
SAP Analyst	0
SAP Developer	0
School Administrator	1
School Principals - 1	1
School/Academic Counselor	0
Servers	322
Service Technician HVAC	23
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Sheet Metal worker 17 Shipping/Receiving Clerks 124 Social Engagement Manager 11 Social Media 12 Social Media Coordinator 85 Social Media Director 66 Social Media Technician 11 Social Network Marketer 93 Social Network Coordinator 84 Social Network Engineer 49 Social Network Media Faculty 1 Social Network Specialist 95 Social Worker 2 Social Worker 2 Social Worker Geriatric 1 Solar Photovoltaic (Electric) Installer 15 Solar Thermal Installers & Technician 0 Speech Therapists 2 Storage and Distribution Managers 5
Social Engagement Manager         11           Social Media         12           Social Media Coordinator         85           Social Media Director         66           Social Media Technician         11           Social Network Marketer         93           Social Network Coordinator         84           Social Network Engineer         49           Social Network Media Faculty         1           Social Network Specialist         95           Social Worker         2           Social Worker Geriatric         1           Solar Photovoltaic (Electric) Installer         15           Solar Thermal Installers & Technician         0           Speech Therapists         2
Social Media         12           Social Media Coordinator         85           Social Media Director         66           Social Media Technician         11           Social Network Marketer         93           Social Network Coordinator         84           Social Network Engineer         49           Social Network Media Faculty         1           Social Network Specialist         95           Social Worker         2           Social Worker Geriatric         1           Solar Photovoltaic (Electric) Installer         15           Solar Thermal Installers & Technician         0           Speech Therapists         2
Social Media Coordinator         85           Social Media Director         66           Social Media Technician         11           Social Network Marketer         93           Social Network Coordinator         84           Social Network Engineer         49           Social Network Media Faculty         1           Social Network Specialist         95           Social Worker         2           Social Worker Geriatric         1           Solar Photovoltaic (Electric) Installer         15           Solar Thermal Installers & Technician         0           Speech Therapists         2
Social Media Director         66           Social Media Technician         11           Social Network Marketer         93           Social Network Coordinator         84           Social Network Engineer         49           Social Network Media Faculty         1           Social Network Specialist         95           Social Worker         2           Social Worker Geriatric         1           Solar Photovoltaic (Electric) Installer         15           Solar Thermal Installers & Technician         0           Speech Therapists         2
Social Media Technician11Social Network Marketer93Social Network Coordinator84Social Network Engineer49Social Network Media Faculty1Social Network Specialist95Social Worker2Social Worker Geriatric1Solar Photovoltaic (Electric) Installer15Solar Thermal Installers & Technician0Speech Therapists2
Social Network Marketer93Social Network Coordinator84Social Network Engineer49Social Network Media Faculty1Social Network Specialist95Social Worker2Social Worker Geriatric1Solar Photovoltaic (Electric) Installer15Solar Thermal Installers & Technician0Speech Therapists2
Social Network Coordinator  Social Network Engineer  Social Network Media Faculty  Social Network Specialist  Social Worker  Social Worker  Social Worker Geriatric  Solar Photovoltaic (Electric) Installer  Solar Thermal Installers & Technician  Speech Therapists  2
Social Network Engineer 49  Social Network Media Faculty 1  Social Network Specialist 95  Social Worker 2  Social Worker Geriatric 1  Solar Photovoltaic (Electric) Installer 15  Solar Thermal Installers & Technician 0  Speech Therapists 2
Social Network Media Faculty  Social Network Specialist  Social Worker  Social Worker Geriatric  Solar Photovoltaic (Electric) Installer  Solar Thermal Installers & Technician  Speech Therapists  2
Social Network Media Faculty  Social Network Specialist  Social Worker  Social Worker Geriatric  Solar Photovoltaic (Electric) Installer  Solar Thermal Installers & Technician  Speech Therapists  2
Social Worker2Social Worker Geriatric1Solar Photovoltaic (Electric) Installer15Solar Thermal Installers & Technician0Speech Therapists2
Social Worker Geriatric1Solar Photovoltaic (Electric) Installer15Solar Thermal Installers & Technician0Speech Therapists2
Solar Photovoltaic (Electric) Installer15Solar Thermal Installers & Technician0Speech Therapists2
Solar Thermal Installers & Technician 0 Speech Therapists 2
Speech Therapists 2
Storage and Distribution Managers 5
Structural Engineer 26
Student Services Director - postsecondary
education 0 Supply Chain Manager/ Planning,
Forecasting / Purchasing 0
Supply Chain positions 93
Surgical Technician 25
Surgical Technologist 13
Systems Engineers 5
Teacher Assistants 337
Teacher College 668
Teacher Elementary 1575

Teacher Middle School	0
Teacher Secondary	1503
Teacher Special Education	0
Teacher Special Education	5
Teacher Vocational	0
Technical Call Center/Service Desk	60
Technical people for Property Damages	0
Technical Writer	22
Telecommunication Equipment, Cable, Line Repairers/Installers	578
Telecommunications Manager	5
Telecommunications Specialist	23
Terminal Management	9
Tool and die makers	0
Training Coordinator	1
Training Specialists	2
Truck Driver, Heavy	137
Urban Planners	6
Veterinary Technician	52
Veterinary Technologist	38
Virtualization Technician	10
Vocational Rehabilitation	7
Wastewater Plant Operators	10
Wastewater Treatment Operator	10
Web Developer	51
Web Developer (Senior)	22
Welder, Cutter, Soldier, Brazer	236
Wind Installation Technician	2

# Responses to Questions 3 and 4 Combined Listed Numerically

Question 3: The following occupations listed alphabetically, were most often mentioned in past InterLink surveys. List the number of employees you may need to hire in the next 5 years. Mark only those occupations that apply to your need. If a job title is missing from this list you will be able to include it later in the survey.

Question 4: List any occupations that you project to be hiring in the next five years, and the numbers that might be needed. Feel free to add more lines Bad example: Health Careers -5, Good example: Registered Nurses -5.

(Note: Where "0" is indicated no number was provided)

Cook, Restaurant	5086
Teacher Elementary	1575
Teacher Secondary	1503
Police/Sheriffs Patrol Officer	841
Automotive Repair Service Technician	710
Maintenance & Repairer Worker, General	707
Teacher College	668
Food Service Manager	631
Machinist (including CNC)	596
Retail sales associates	594
Retail sales managers	587
Telecommunication Equipment, Cable, Line	
Repairers/Installers	578
Sales Associates	577
Nurse Registered	552
Electrician	521
Laborers and Freight, Stock and Material	
Movers (Hand)	485
Accountant	461
Nurse Aide/Assistant (CNA)	445
CNC Manufacturing Technician	405
Home Health Aide	369
Chef or Head Cook	340
Teacher Assistants	337
Servers	322

Attorney/Lawyer	303
Food Server - Professional	298
Medical Assistant	280
None/NA	274
Nurse, BSN	265
Customer Service Associates	250
Financial Managers	238
Welder, Cutter, Soldier, Brazer	236
Medical Coding Specialist	212
IT/System Administrator	185
Cyber-Security Specialist	180
Adult Day Care Workers	176
Automotive Body Technician	175
General & Operations Manager	169
Computer Programmer	154
Heavy Equipment Operator	150
Engineer Civil	147
Medical & Clinical Lab	
Technician/Technologist	145
Truck Driver, Heavy	137
Plumber, Pipefitter, Steamfitter	131
Computer Systems Analyst	130
Multimedia Artists & Animators	126
Shipping/Receiving Clerks	124
Computer Support Specialist	122

Bookkeeper	119
	115
Fire Fighter	114
Gardeners & Groundskeepers	114
Diagnostic Medical Sonographer	111
Air Traffic Controllers	110
Medical Records Technician	108
Medical Doctor/Physician	101
Crater/Packer	100
Geriatric Service Workers	100
Housekeeping	100
Dishwashers	96
Social Network Specialist	95
Emergency Medical Tech./Paramedic	93
Social Network Marketer	93
Supply Chain positions	93
Graphic Designers (CAD)	89
Heating/Air Conditioning/Refrigeration	
Technician (HVAC)	87
Computer Maintenance Technician	85
Social Media Coordinator	85
Auditor	84
Social Network Coordinator	84
A&P Airframe and Powerplant Mechanic/Technician	82
Electronic Commerce Specialist	80
Engineer Computer Software, Applications	79
Computer Aided Design Drafter	78
Advertising & Sales Mgr.	77
Data Analyst	75
Forklift Operators	75
Physician Assistant	75
Electrical/Electronic Engineering	
Technician	73
Risk Managers	72
Computer Security Specialist	70
Social Media Director	66
Returns Receivers	64
Technical Call Center/Service Desk	60
Bartender	56
Veterinary Technician	52
Engineer Computer Hardware	51
Web Developer	51
Electronic Assembler	50

Material Handler	50
Patient Care Technician (Certified)	50
Social Network Engineer	49
Architect	48
Operations Manager	46
Physical Therapist	45
Business Intelligence Analyst	44
Engineer Industrial	44
Restaurant manager	44
Network Architect	43
Mental Health Counselors	39
Veterinary Technologist	38
Light Duty Truck Drivers	37
Network Manager	36
Preschool Teacher	36
Public Safety Dispatchers	35
3-D Artist/Animator/Gaming Technician	32
Assembler	32
Quality Assurance Testing Manager	32
Bus Drivers	29
Carpenter	29
Cyber Security Engineer	29
Legal Secretary	29
Paralegal/Legal Assistant	28
Hostess	27
Quality Assurance (QA) Technicians	27
Structural Engineer	26
Respiratory Therapist (Certified)	25
Surgical Technician	25
Dispatcher – Logistics	23
Engineer Computer System Software	23
Engineer Mechanical	23
Logistics Manager	23
Pharmacy Technician	23
Sales Manager	23
Service Technician HVAC	23
Telecommunications Specialist	23
Radiologic Technician/Technologist	22
Technical Writer	22
Web Developer (Senior)	22
Analytics Specialist	21
Computer & Digital Forensics Technician	21
Interior Designers	21

Building Information Systems managers	20+
Desktop Support Analyst	20
Electrician Apprentice - 20+	20
Physical Therapist Aide	20
Physical Therapist Assistant	20
Construction Project Manager	19
Host/Hostess	18
Advanced Manufacturing Specialists	17
Certified Financial Planner	17
Construction Project Engineer	17
Cyber Security Architect	17
Engineer Electrical	17
Sheet Metal worker	17
Engineer Network	16
Geographic Information Systems	10
(GIS)/Survey and Mapping Technician	16
Busser	15
Construction Superintendent	15
Convergence Technology Specialist or Technician	15
Engineer Aerospace	15
Occupational Therapist Aide	15
Printing Press Operator	15
Solar Photovoltaic (Electric) Installer	15
Administrative Assistant - Dental Office -2, Finance - 5	14
Diagnostic Imaging Specialist	14
Construction Manager/Inspector	13
Medical Secretary	13
Surgical Technologist	13
Advanced Digital Mfg. (ADM) Technician	12
Biological Lab Technician	12
Construction Project Superintendent	12
Customer Service/Sales Representative	12
Customer Service/Sales Representative	12
Environmental Health and Safety positions,	12
Occupational Therapist	12
Project Mangers/Estimators	12
Social Media	12
Commercial Lenders - Seasoned	11
Social Engagement Manager	11
Social Media Technician	11
Composite Technician (Bond Assembler)	10
Food Runner	10
Pharmacist	10

Drigon Crond	10
Prison Guard Rewind Operator	10
Virtualization Technician	10
Wastewater Plant Operators	10
Wastewater Treatment Operator	10
Banquet Server	9
Customer Service Rep	9
Mobile Application Developer	9
Terminal Management	9
Cabling Technician	8
Commercial bankers - Seasoned	8
Benefits Consulting - Insurance	7
Commercial Insurance Account Managers	7
Diesel/Bus/Truck Engine Technician	7
	7
Retail marketing specialist  Vocational Rehabilitation	7
	6
Environmental Engineer Urban Planners	
	5
Account Managers-Insurance	5
Artificial Intelligence	5
Commercial Loan Administrative Assistant	
Engineer Electronic (Except Computer)	5
Mainframe Systems Programmer	5
Marketing Manager	5
Storage and Distribution Managers	5
Systems Engineers	5
Teacher Special Education	5
Telecommunications Manager	5
Biochemists	4
Chemical Operator	4
Engineer Petroleum	4
Materials Analyst	4
Occupational Therapist Assistant	4
Price To Win (Competitive Intelligence) Analyst	4
Robotics Technician	4
Sales Producers	4
Deep Learning	3
Global Positioning Systems (GPS)	
Technician	3
Human Resource Recruiters	3
Human Resources Generalists	3
Human Resources HRIS Managers	3
Nutritionists/Dietitians	3

CFO - Manufacturing	2
College Prep Advisor	2
Community Specialist	2
Development Specialist	2
Estimator	2
Event Coordinator	2
Executive Assistant	2
Garage Door Service Technician	2
Garment Printer	2
Human Resources	2
Human Resources/Organization	
Development Specialist	2
Janitorial/maintenance	2
Marketing & Social Media Generalist	2
Marketing Coordinator	2
Medical Healthcare Educator	2
Meeting planners	2
Office Assistant	2
Online Marketing Analyst	2
Payroll Specialist	2
Principal	2
Producers - Insurance	2
Production Assistant	2
Restaurant - Field Consultants	2
Sales	2
Sales - Insurance	2
Social Worker	2
Speech Therapists	2
Training Specialists	2
Wind Installation Technician	2
Billing Specialist	1
Casework Supervisor	1
COO- Manufacturing,	1
Development Coordinator	1
Development Manager	1
Director	1
Environmental Scientist	1
Event Manager	1
Graphic Designer/Web Developer	1
Health Information Technician	1
Hotel Manager	1
Human Resource Generalist	1
Human Resource Manager	1
Human Resources Consulting - Insurance	1

I do not hire in this position	1
Instrument Technician	1
Insurance Underwriter	1
Labor/Trainee	1
Licensed / Certified Notary Public	1
Marketing	1
Marketing Specialist	1
Membership Director	1
Music Therapist	1
NERC Auditor/Analyst	1
Office Manager	1
Photo Retoucher	1
Photo Studio Manager/Assitant	1
Programs Manager	1
Recreation specialist	1
Respite Home Manager	1
Sales Account Executive	1
Sales VP/ Field Development	1
School Administrator	1
School Principals - 1	1
Social Network Media Faculty	1
Social Worker Geriatric	1
Training Coordinator	1
Account Executive	0
Business Analyst, Data Analytics, Project	
Managers	0
Call Center Representative	0
Case workers - youth specialist	0
Channel Marketing Manager	0
Chief Science Officer	0
Clerical assistance- postsecondary education	0
Cloud Architect	0
Cloud Engineer	0
Curriculum Developers/Coordinators	0
Direct Care Specialist (works w/disabled	
individuals)	0
Director of Video/Film/Media Production	0
Early Childhood Intervention Specialists (EIS)	0
Engraving specialist - knowing Coral Draw	0
Formulator/ Product Innovation	0
Gear Cutter/ Machine Setup	0
General Marketing/ Brand Specialists	0
Geologist	0

Healthcare Manager	0
Human Resources Trainers	0
Human Resources Benefits Specialist	0
Human Resources Compensation Analyst	0
Human Resources Directors and HR	0
Managers.  Human Resources Diversity Professionals	0
Human Resources HRIS Analysts	0
Human Resources Specialist	0
Industrial X-ray Technician	0
Instructional Designer	0
Licensed Professional Counselors (LPC)	0
Life Insurance Sales	0
Machine Operators	0
Maintenance Mechanic	0
	0
Marketing Director  Marketing Guru, Social Media Expert	0
Mechanic (millwright)	0
Medical Technology Specialists	0
Medical Transcriptionist	0
Micro-electromechanical Systems (MEMS)	0
Technician	0
Nanotechnology Technician	0
Nurse Practitioners	0
Nursing Manager	0
Operations Technician	0
Payroll Accountant	0
Payroll clerk - retail	0
Photographer, Office Manager	0
Planners	0
Point of Sales Mgr.	0
Procurement/Contract Specialists	0
Production department personnel	0
Production Labor	0
Production manager	0
Production Supervisor	0
Project Engineer	0
Psychiatrists	0
Public Relations Director - postsecondary	
education	0
Quality Engineer	0
Quality Process Coordinator	0
Regulatory Analyst	0
Sales/ Hispanic Director	0
SAP Analyst	0

SAP Developer	0
School/Academic Counselor	0
Solar Thermal Installers & Technician	0
Student Services Director - postsecondary	
education	0
Supply Chain Manager/ Planning,	
Forecasting / Purchasing	0
Teacher Middle School	0
Teacher Special Education	0
Teacher Vocational	0
Technical people for Property Damages	0
Tool and die makers	0

# Responses to Question 5 ~ Emerging and Evolving Occupations

Question 5: Technology and changing business practices may affect the way work is performed. Other than those listed above, provide any emerging (new) or evolving (changing) occupations in your company or industry of which we should be aware. List as many as you want. Example: Social Network Coordinator - Responsible for business presence and updates on Facebook, Twitter, and other social media outlets. Need: 5

#### Advertising/Marketer

Analytics Specialist - responsible for working with major search engine data to create monthly reporting

Associate Deans-3 Oversee faculty and classes under various disciplines - 3

Bilingual Teachers are greatly needed. Currently we have to go to Spain and Puerto Rico to get Bilingual teachers to meet the federal and State requirements as far as meeting the needs of our second-language students. Every public school district in the area is fighting to hire and retain this type of teacher.

Bioinfomatics Tech.

Biomedic Equipment Information Systems Specialists (BEISS)

Building Information Modeling Technician - Coordinates 3-D building models to streamline construction activities.

**Business Development Liaison** 

**Business Relationship Manager** 

Cloud Architects - Helps companies know they can best utilize their resources.- 7

Coding

Compliance Coordinator

Computer Network Architect

Cyber Security Technicians - protect from cyber theft, terrorism and cyber espionage threats.

**Data Center Managers** 

Deep knowledge of Microsoft Office suite and good typing (keyboarding) skills (60+ wpm).

Deep knowledge of Microsoft Office suite and good typing (keyboarding) skills (60+ wpm). Good speaking and grammar skills

Definitely a Social Media Employee looking at emerging outlets

Digital Printing Press Operator - responsible for converting raw material into labels on a digital press

#### **Emerging and Evolving Occupations**

Digital social network marketing 1

Drone operator - flies a drone at construction site - 1

Drone Traffic Controller

Due to the small size of my business, this is usually a duty assigned to one of my

Administrative Assistants

eCommerce Specialists

Electrical Pre-Fab Manager

Energy Managers - Find ways to provide energy efficiency throughout district - 5

Example provided above is one I would add.

Facebook, KIK, Twitter, Constant Contact, LinkedIn

Fire Training Center - 3

Fire Training Center - 3

Genetic Counselors -

Geneticist - Study statistical analyses on the properties and characteristics of cells.

**Genetic Counselors** 

Good speaking and grammar skills

Hospitality employees - Computer Skills

Hospitality employees - Safeserve techniques

Industrial Hygienist Safety Coordinator

**Instructional Designer** 

International Marketing/Sales -- Responsible for bringing international airlines to the airport

IT communications manager - 1

IT Service Manager

Landscape Designer - Uses cutting edge design software to design landscapes, irrigation systems, drainage systems, structures. - 2

Making sure all employees are trained in servsafe techniques and computer skills.

Manufacturing Process Technician- Responsible for evaluating current and future processes to ensure economic efficiency. - 7

Marketing Manager -

Marketing part time

Marketing Specialist

Math Teachers - secondary, all of us must pay several thousand dollars in stipends to attract and retain STEM teachers.

Multimedia Specialist

Multi-modality imaging techs- x-ray techs - trained in other modalities such as CT

N/A, None - 476

Notary Public to handle in-depth review of real estate transactions.

Nurse Navigator

**Nurse Practitioner** 

Office manager

### **Emerging and Evolving Occupations**

#### **Paint Supervisors**

PR Director will need to have marketing skills as well as communications skills - traditional as well as digital expertise.

Promotional Merchandise Sales - sells branded merchandise to fortune 500 type companies. Agency environment.

Responsible in directing films and media production for the National Archives.

Robotics Technician

Sales Specialist - 25

Sales/ Field Development Trainers Digital Training Platform, Instruction al Designer Social Media Coordinator

Science teachers - secondary, all of us must pay several thousand dollars in stipends to attract and retain STEM teachers.

Simulation engineers for architecture, games surgeries, flying and other applications - 21

Social Engagement Manager

Social Media

Social Media Analyst,

Social Media Coordinator -

Social Media Manager

Social Media Specialist - 1

Social Network Coordinator -13

Social Network Manage

Stem Cell Researchers

Virtual Reality (VA) Engineer

Virtual Reality (VA) Specialist

Wireless and Internet

# Responses to Question 6 ~ Workplace Basic Skills and Attributes for Entry Level Workers

Question 6: The following workplace basic skills and attributes have been identified for entry level workers. Check all that apply to your entry level workforce needs.

Answer Options N= 1327 Response Percent = 100%

Answer Options	Response Percent	Answer Options	Response Percent
Oral Communication	96.50%	Multi-tasking	69.40%
Teamwork	94.80%	Decision-making	68.20%
Work Ethic	92.50%	Adaptability	68.20%
Written Communication	87.90%	Creativity	65.30%
Problem-solving	86.10%	Perseverance	64.70%
Integrity	85.50%	Organization	64.20%
Pride in Work	85.00%	Technology and Tool Usage	63.00%
Following Directions	84.40%	Information Gathering	57.20%
Customer Service	81.50%	Appreciation of Diversity	55.50%
Time Management	81.50%	Stress Management	49.70%
Initiative	80.90%	Leadership	47.40%
Attention to Detail	80.90%	Conflict Management	41.00%
Willingness to continue learning	75.70%	Thoughtful Reflection	35.80%
Dedication	75.10%	Resource Allocation	34.70%
Professionalism	75.10%	Intellectual Risk- taking	32.40%
Numerical and Arithmetic Application	70.50%	Other - please specify	

## Responses to Question 6 ~ Other skills or attributes not listed

Question 6: List any workplace basic skills or attributes not mentioned above.

Ability to focus on work during work hours
Accountability and Commitment
Accountability/ownership
Basic Sales Skills
Bilingual
Computer Skills
Conflict management
Deep knowledge of Microsoft Office suite and good typing (keyboarding) skills (60+ wpm).
Demonstration of skills
Emotional Intelligence
Emotional Intelligence, Respect, humility, confidence
Empathy and kindness; conflict management
Good Proficiency with common business computer programs such as Outlook and
Word
Good speaking and grammar skills
Knowledge of the aging population
Listening Skills;
NA - 413
Passion and Innovation
Punctuality/Attendance, Schedule flexibility
Respect, humility, confidence
Telephone Etiquette

## **Responses to Question 7 ~ Licenses or Certifications**

Similar responses were combined

Question 7: What licenses or certification(s) would an entry level worker need to be qualified for your industry?

Accountant: Certified Public Accountant -

Accounting Degree & State CPA License

Accounting - Degree Financial Mgmt - CPA

Accounting - Qualified to sit for CPA

Alarm Sales: Alarm license through Department of Safety, Bureau of Private Security

Architect: Professional architectural degree from an accredited university and State of Texas Architect License

#### Aruba Certified Mobility Professional

Asbestos Abatement: Asbestos certification (environmental affairs)

Associate Dean -MA/MS, 5 years

teaching/administrative experience in Higher Education

Associate Degree

AutoCad expertise

BA, BS with 18 graduate hours in the specialization or Master's in specialized field.

**Bachelor Science Engineering** 

Basic Peace Officer / Fire Fighters/ Paramedic

BS, Computer Science

BSN Nurse: Degree and State Nursing Certification

Business - College degree

Career Teacher: Teacher Certifications along with Industry Certifications

CCISP, SANS, Other Cyber Security focused certificates

**CCNA** 

CDL Electrician

CDL license with a P endorsement

CDL License with School Bus Driver endorsement

Certified Medical Assistant: Certified Medical Assistant by State

Certified Medicine Aide: CMA License

Certified Network Associate,

Certified Nursing Assistant (CNA)

Certified Paralegal

Certified Public Accountant - CPA

Certified Teacher in subject Areas intending to teach.

Certified teacher, counselor, technician,

administrator, media marketing management,

Certified welder, Six sigma yellow belt minimum

Certified Wine Specialist

Certified Wireless Network Administrator,

Cisco Network

Class C Water Treatment License issued by TCEQ

CMA

College Degree

Commercial Drivers License (CDL) - 188

Computer maintenance: CompTIA A+

Computer technician certifications

Computer: Network

Computers: Microsoft Certifications (MCP,

etc.)Cisco Certifications (CCNA)

Construction - TEXO Safety First

Construction - Apprentice electrical license

Construction - NCCER Courses

Convergence Technician: VoIP, Networking, SIP

Cook/Chef: Food Handler Certification

Cosmetologist: State Cosmetology License

CPR- 13

CPT

Dietary services, housekeeping, and laundry do not require any skills or certification.

Dietician Aide: Certified Dietary Aide

**DOD Secret Security Clearance** 

Drafter: Certified Drafter CD; CAD/BIM certification

Drive heavy truck class A CDL

Drivers License / Clean Appearance

Drones - Drone Registration

### Licenses or Certifications Needed

Electrical apprentice license

Electrical Journeyman or Apprentice Any Welding certifications. Any Mechanical certifications.

Electrician Helper - Texas Electrical Helper License

Electrician Journeyman - Texas Journeyman's Electrical Licenses

Electrician Master - Texas Electrical Contractor License

Emergency Medical Dispatcher EMD

**Emergency Medical Technician EMT** 

Engineer – Degree and Registered Professional Engineer License

**Engineer-In-Training** 

Engineers: Professional Engineer PE; Structural Engineer SE; Engineer Intern EI; Engineering in Training EI; Electrical and Electronics Engineers - IEEE

EPA Certification: HVAC/R License (TACLA/TACLB)

Finance/Insurance: Non commissioned security license or commissioned security license from the State of Texas

Financial: Chartered Financial Analyst - CFA, Chartered Alternative Investment Analyst; CAIA Certified Financial Planner; CFP; Certified Fraud Examiner CFE; Certified Internal Auditor CIA; Registered Financial Planner RFP

Firefighter/Paramedic/EMT - Licensed/Certified

Florist: Master Florist Certification

Food handler certificate (Fort Worth)

Food handling certification, TABC certification

Food Services: TABC Certified Food Handlers Certificate

**GED** 

Graphic Design - Resume with Graphic Design Diploma

Hazmat: OSHA - 40 hour HAZWOPER

Health Care; Certifications/Licenses: Group 1 License, Medical Coding Certification, PMP, Certified Trainer.

High School Diploma

High School Diploma for general laborers; higher education/technical training and experience for most other positions.

Home Health Aide (HHA)

Hospitality: Certified Meeting Professional - CMP; Certified Hospitality Educator CHE

Human Resources: Certified Compensation Professional CCP; Certified Benefits Professional CBP, Certified Employee Benefits Specialist CEBS HVAC- EPA certification

Hygiene Degree and License Assistant - Certification Administrative - none

Informal Teaching Certification - 17

**Information Security Specialist** 

Insurance: Series 6 & 63 or 7 & 66 FINRA licenses and State of Texas Group 1 Insurance license.

Insurance: State License - Group I Life & Health

Insurance Sales - State Certified Life Underwriter

Interior Design - Interior Design Degree

Irrigator's License

IT: Chief Information Security Officer - CCISO; Certified Ethical Hacker - CEH; Certified Information Systems Auditor - CISA; Certified Information Systems Security Professional - CISSP; Certified Software Tester - CSTE

Just diploma from HS - maybe couple years of Junior college

Law Office Managers - Bachelor's degree

Lawyers - J.D. degree and Law License by the State Bar

Legal: Law License, Paralegal Certification; Legal Secretary Certification

Licensed Paramedic and AAS degree

LMSW, LBSW, LPC, LCSW

Loan Officer: State Loan Originator License

Logistics: Fork lift certification, CPR, CLT optional

Logistics: Certified Professional Logistician - CPL; Certified Transportation Professional - CTP

Logistics: CMM Certifications Material Handler -B CDL

Logistics: Material Handler -B

Logistics: NDT Level 1 & 2 Certification CMM Carts, Material Handler -B CDL

Carts, Material Handler -B CDL

Machinist: NIMS machinist certification

Maintenance Mechanics - basic certifications in electro-mechanical field.

Masseuse: State Massage Therapy License

Material Handlers - Forklift Certification

Medical Assistant

Medical Assistant RN Physician assist

Medicine and Health Care: Hippo Professional CHP; Doctor of Dental Surgery DDS; Doctor of Medicine M.D.; Medical Laboratory Technician MLT; Medical Technologist MT

Microsoft

Mid-Management Principal Certification

Museum 2-4 Year College Degree with background

#### Licenses or Certifications Needed

in History, Art History, Museum Studies. Architecture, Archaeology or similar field

Office: Basic Office Management Certification

Minimum 4 year University degree

MS Office Specialist Certification preferred - Admin.

Teacher Certification - Professional

N/A - None - 472

Networking - CCNA

NIMS

None - I provide internships and the jobs are opportunities to train or learn what the field requires.

None - We do a complete in house training

None for entry Level, some college preferred

None unless working with chemicals.

Notary Public

Nothing other than a TX driver's license. We would train and get them certified.

Nurse: State Licensed Nurses

Nursing Assistant: Certified Nursing Assistant

(CAN) License

Nursing, therapist, CPR, ACLS, PALS, TNCC, CCRN, etc.

Nursing: Registered Nurse RN; Licensed Vocational Nurse LVN; Nurse Practitioner NP; Bachelor of Science in Nursing BSN

OSHA 10hr and 30hr certification

P&C Insurance license

Paramedic - Nationally Registered Paramedic NRP

Parks and Recreation - Degree in Parks and Recreation Administration

Tree reaction / reministration

PE - Professional Engineer
Physical Education with studie

Physical Education with studies in Health and Wellness or Gerontology

Physical Therapy: Physical Therapist - PT; Physical Therapist Assistant - PTA

Physician Assistant

Pilots: PPL, IR, CPL ME, ATP, all require specified flight hours

Planners/Engineers: -EIT

Plumber Apprentice - Apprentice card

Plumber Journeyman - Journeyman Plumbing License

Plumber: Apprentice card, Journeyman State Plumbing License and Master State Plumbing License

Police Officer - Basic Certification

Police Officer - TCOLE Certification

Post Secondary Degree

Professor (Teacher, college)-MA/MS and at least 18 graduate hours in the teaching discipline,

Public Affairs - College degree

Quality Assurance

QuickBooks - Accountant Bachelors Degree - All other positions

Radiology Technician/Ultrasound Technologist: State certifications

RDA, CMA, LMT

Real Estate - Texas Real Estate License

Registered Nurse

Registered Physician's Assistant: RPA

Restaurant: Food Handlers License, Food Handlers, Food Service, and Food Safety (Servsafe)

Certification

Sales have a TDHCA license for salesperson

Security +, Network +, CCNA - 131

Social worker: PM license

State Apprentice License

TABC certification, Masters of Wine -21

TCEQ-water and wastewater treatment TCOLE-Dispatcher certification

TDLR apprentice license

Teacher - IT secondary courses require someone with certain IT certifications.

Teacher: Texas Teaching Certification,

Teacher: Applicable State Teacher Certification

Teacher: State teaching certification in field of instruction

Teachers will require Texas Teacher Certification
Teaching Assistants - Need an Associate's Degree.
teachers need a degree and then to pass the state of
Texas appropriate teacher tests

Teaching certification

Teaching certification

work experience in a technology related firm that would allow real life application to the classroom (welding, computers, finance, etc.)

Teaching Certifications - Licenses for Nurses, Physical Therapists, Occupational Therapists, Speech Pathologists

Technical Certificate: MS, MCP Windows 2000, MCSA Windows 2000, A+ Certified Technician

Telecom systems: certifications from Manufacturers, i.e. Avaya, Nortel, Samsung, Allworx, etc.

#### **Licenses or Certifications Needed**

Texas drivers license=CDL class B and C

Texas Food Handler Certification paid for by OPHDFW.

The candidate must pass the ACT work structured exam, interview, physical and drug screen

Truck Driver, Security cleared: CDL class A Drivers License/ Security Clearance

Truck Driver, tanker: CDL with tanker

endorsement

Utility Workers: TCEQ Certification

Veterinary: Doctor of Veterinary Medicine DVM; Veterinary Assistant CVA; Veterinary Tech - LVT

Wastewater Treatment License issued by TCEQ for Operator positions

Water Operations: Operator I/II - TCEQ

Water/Wastewater License Class D after 1 year;

Wastewater Operator's Certificate of Competency;

Engineer - Registered Professional Engineer

Water or Sewer License

Water Technicians and Environmentalists: Class I Wastewater Collection System Operator/Class C Water Works;

Operator I/II - TCEQ Water/Wastewater License Class D after 1 year; Wastewater Operator's Certificate of Competency

Welders: National NDI Certification, National Certificated Welders, AWS Certification

Wireless Networking - CWNA

## **Responses to Question 8 ~ Additional Feedback**

Similar responses were combined

Question 8: If you have additional feedback on any of the above questions but were unable to enter in the answer boxes, please respond below.

#### Background checks - 17

Finding qualified technicians is almost impossible

For the # to hire I answered in context of IT only and I answered the minimum "1". I have no way of knowing or projecting hiring plans beyond a quarter given the working state of the IT industry

Great questions. Collin College will be heavily in the workforce training market in the next five years and this information is very important to

I feel many students graduation high school and not furthering their education are not qualified for basic entry level positions with our company.

I find that today's entry level candidates cannot spell, don't understand how to look or act professional and they cannot be depended upon to do what they commit to. Work ethic is lacking

I have opportunities for entry level workers. They need to have a willingness to learn, to be self motivated, and dependable. If they will provide that, then we can provide the training.

I have participated with this survey every year and know that the questions are asked to determine very specific information. It has been interesting to follow the results through the years.

I think in the coming years, as employers, we may need to learn to adapt to the styles of younger workers as much as they need to learn to adapt to ours. Many of the issues included above are indicative of a disconnect in expectations and style, and training for success in the workforce may require as much education on those issues as on core subjects such as written communication.

It would be good for the colleges to connect with their local high schools to begin a "grow your own\_\_\_\_" program. Find the most in demand jobs and then partner with the high schools to grow them during HS before continuing on into that career area in college.

N/A - 434

No additional feedback

Please note that I have completed the survey based on feedback we receive from companies in Carrollton.

Our college may hire 2-3 people a year for our EMT/Paramedic Program, but we provide training for the area EMT and Paramedics hired. I would say within a year 75 EMT & Paramedic students are hired from TCC's programs.

There is a major shortage of servers and trained cooks. With the growth of the restaurant industry in North Dallas and the lack of labor; wages have increased around high growth areas. A head chef can make \$15/hr and a line cook can start at \$13/hr now. This is a big increase which will drive prices up.

We handle all licensing - a security registration once hired- much training is done upon hire but we look for those who are motivated to help others.

We like experience in Graphic Design and Installation of Signage.

We're not looking to hire entry level staff. We need highly skilled and years of experience.

## **Responses to Question 9 ~ Survey Improvement**

Question 9: Is there any way that this survey could be improved?

Add those skills sets addressing the human services community.

Be more specific, experience, education, and adaptability

I am confused on question #3. Will I hire them to work for me in my company or as support people for my company? i.e. I will need an accountant, but only as a subcontractor. Same as with electrician or carpenter. I am confused by what that question is asking.

I answer the survey every year and find it easy to complete. I appreciate receiving the survey report.

I was surprised there were no Marketing or Sales related professions to choose from.

Interested to see the data. We are good in high level hires and lower level hires, however we are lacking in mid- level to director hires. That is where our focus will be for the next couple of years. Therefore, the positions we were looking to fill are specific in nature and require specific experience, etc. vs. hiring entry level positions.

Many questions are related to digital work, you may want to add some questions for those that they still like to work with using their hands. like Plumbers, Mechanics, carpenter...etc.

Multiple choice are better than empty boxes:) -whether you will hire as opposed to # of positions (which is indeterminate) is preferred - ability to choose certification types as opposed to blank fields will yield better responses (present most desired certifications and let person surveyed select with a blank field for other input -

#### N/A - 419

Our college does workforce training. Therefore, we do not anticipate hiring workforce occupations.

Need to add some of the softer none technical jobs such as copy writer, administration, financial planning and the like.

Not sure why question 6 (Basic Skills) was asked. The majority of those characteristics should be necessary for all positions.

#### Nothing noted

Seems fine to me.

Specifically identifying restaurants within the hospitality/tourism industry category.

Thus is a good Survey.

Very easy to complete. - 138

You could use jobs (and job classifications) that mirror those utilized by the Bureau of Labor Statistics to ensure uniformity.

You may want to ask which type of companies I may need to employ or work with to do what I do. I work with law firms, CPAs, P and C firms... Knowing that information might help provide a more robust picture of the types of jobs and level of need. A company may be looking to hire a network engineer in the next five years but will use an outside firms to provide programmers...I am not a tech person but it might be a good example. Thanks

## 2016~2021 InterLink Targeted High Skill/High Demand Occupations

Identified by North Central Texas Regional Employers ~ Organized by Achieve Texas Career Clusters Education time is the minimum required for entry to highest expected

Wages listed are North Central Texas 16 County Region entry level hourly & experienced hourly for 2015
\* Indicates critical regional employer demand but may not meet education or wage criteria

The absence of an occupation from this list does not indicate that it will not offer career opportunities

#### **Architecture & Construction Careers**

CareerEducation and WagesCareerEducation and WagesElectricians2-5 yrs. - \$15.27/24.20Heating/A.C. Technician2-5 yrs. - \$15.84/25.16General Maintenance & Repairers WkrsOJT-4 yrs. - \$12.10/20.72Plumbers/Pipefitters5 yrs+0JT-\$15.18/20.66Welders/Cutters/Solderers/BrazersOJT-2 yrs. - \$12.51/22.68

#### **Business Management & Administration Careers**

CareerEducation and WagesGeneral and Operations Managers4-10 yrs. - \$27.92/82.97

#### **Education & Training Careers**

CareerEducation and Annual WagesCareerEducation & Annual WagesTeachers, Elementary School4-10 yrs. - \$44,314/59,237Teachers, Secondary (High School)4-10 yrs. - \$44,029/61,063Teachers, Middle School4-10 yrs. - \$46,068/59,734

#### Finance Careers

CareerEducation and WagesCareerEducation and WagesAccountants & Auditors4-10 yrs. - \$22.35/45.52Financial Analysts4-10 yrs. \$25.20/51.79Bookkeeping, Accounting, Auditing Clerks OJT-4 yrs. - \$13.61/22.31

#### Health Science Careers (Also see Emerging & Evolving Occupations)

<u>Career</u>	Education and Wages	<u>Career</u>	Education and Wages
Diagnostic Medical Sonographers	2 yrs \$26.70/41.33	Nurse Practitioners	4-10 yrs \$37.83/55.15
Family & General Practitioners	10+yrs. \$55.15/112.06	Nurses - Registered/BSN	4-10 yrs \$26.49/39.18
*Home Health Aides	OJT- \$8.65/12.12	*Nursing Aides & Orderlies (CNA)	OJT - \$10.02/12.29
Medical & Clinical Health Technos.	2-4 yrs \$23.47/35.52	Pharmacy Technicians	OJT - \$12.86/17.74
Medical Records/Health Info. Techs.	2-4 yrs \$13.12/25.50	Radiologic Technologists	2-4 yrs \$21.60/32.74
Nurses Aides & Orderlies (CNA)	OJT - \$10.02/12.29	Veterinary Technicians/Technologists 2 -4 yrs \$13.20/15.37	
Nurses - Licensed Practical/Vocational	2 vrs \$18.12/25.12		

#### **Hospitality & Culinary Careers**

CareerEducation and WagesCareerEducation and WagesChefs and Head Cooks2-4 yrs. -\$15.72/27.01Food Service Managers2-6 yrs. -\$19.01/36.49

#### Information Technology Careers (Also see Emerging & Evolving Occupations)

<u>Career</u>	Education and Wages	<u>Career</u>	Education and Wages
Computer& Information Systems Mgrs.	4 yrs. \$46.57/85.34	Information Security Analysts/Cyber	4 yrs \$27.92/47.51
Computer Network Architects	2-4 yrs \$35.15/59.88	Network & Computer Systems Analysts	4 yrs \$29.52/52.59
Computer Network Support Specialists	2-4 yrs \$24.17/42.50	Software Developers, Applications	4 yrs \$33.52/56.80
Computer Programmers	2-4 yrs \$24.19/50.47	Software Developers, Systems Software	4 yrs \$35.38/57.32

#### Law, Public Safety, Corrections & Security Careers

CareerEducation and WagesCareerEducation and WagesFire Fighters includes EMT2-4 yrs. - \$18.17/30.62Police/ Sheriff Patrol Officers2-4 yrs. - \$22.43/34.93

#### **Manufacturing Careers**

CareerEducation and WagesCareerEducation and WagesComputer Numeric Control (CNC)OJT-2 yrs. \$20.08/31.69MachinistsOJT - \$11.89/21.65

#### Operators

### Science, Technology, Engineering & Mathematics (STEM) Careers (Also see Information Technology & Emerging & Evolving)

CareerEducation and WagesCareerEducation and WagesCivil Engineers4-10 yrs. - \$30.18/50.30Industrial Engineers4-10 yrs. - \$29.63/52.24

#### $\label{thm:electronic} \textit{Electrical/Electronic Engineering Tech.} \quad \textit{2-4 yrs. - $18.62/32.22}$

#### **Transportation, Distribution & Logistics Careers**

CareerEducation and WagesCareerEducation and WagesAutomotive Body Repairers2-4 yrs. - \$14.70/26.54Diesel Engine Technicians2-4 yrs. - \$15.97/24.97Automotive Service Technicians2-4 yrs. - \$12.36/24.88Heavy/Tractor-Trailer Truck Drivers 3-6 mos. - \$12.94/24.07

## 2016 ~ InterLink Emerging and Evolving Careers Projected to Offer Future Employment Opportunities

Emerging Occupations are new occupations in the workforce with new titles and skills. Evolving Occupations are traditional occupations whose knowledge, skills, and abilities have changed or evolved.

SOC Code/O*NET #EE = Emerging or Evolving Occupation	Occupation Title	Industry
43-9111.01	Bioinformatics Technicians	Science
17-2031.00	Biomedical Engineers	Science
15-1199.08	Business Intelligence Analysts/Operations Research Analyst	Information Technology
Emerging	Cloud Architects	Information Technology
15-1143	Computer Network Architects/Wireless Network Engineers/Technicians	Information Technology
Evolving	Convergence Technology Spec. /Techs.	Information Technology
Emerging	Drone Operators	Aviation
17-3025.00	Environmental Engineering Technicians	Engineering
19-4092.00	Forensic Science Technicians (Computer & Digital)	Information Technology
17-3029.10	Fuel Cell Technicians	Energy
45-3021.00/45-3012	Gaming/Computer Simulation Techs. (3-D Artists/Animators/Gaming Techs)	Technology
29-9092	Genetic Counselors	Health Science
15-1121.01	Informatics Nurse Specialists	Health Science
15-1122	Information Security Analysts	Information Technology
17-2131.00	Materials/Smart Materials Analysts/Engineers	Science
17-2199.09	Nanosystems Engineers	Engineering
17-3029.12 /17/3029.11	Nanotechnology Engineering Technicians/Technologists	Technology
29-1171.00	Nurse Practitioners	Health Science
Evolving	Patient Care Technicians (Certified)	Health Science
19-4099.03	Remote Sensing Technicians	Information Technology
13-2099.02	Risk Management Specialists	Business
17-3024.01	Robotics Technicians	Technology
Emerging	Social Media Architects	Business
47-2231	Solar Photovoltaic (Electric) Technicians Installers	Construction
Emerging	Virtual Reality Specialists	Technology

# North Central Texas 16 County Projected Industry Growth 2012-2022 (Numbers are rounded)

Accommodation & Food Services - 29% Administrative & Waste Services - 29% Agriculture, Forestry, Fishing, & Hunting - 10% Arts, Entertainment, & Recreation - 23% Construction - 27% Educational Services, Public & Private - 18% Finance & Insurance - 20% Government - 19%
Health Care & Social Assistance - 36%
Management of Companies & Enterprises - 27%
Manufacturing - 12%
Mining - 26%
Other Services, Ex. Government - 22%
Professional & Technical Services - 28%

Real Estate & Rental & Leasing - 18% Retail Trade - 17% Transportation & Warehousing - 18% Utilities - 17% Wholesale Trade - 20% Self Employed & Unpaid Family Workers - 18. %



Download the InterLink Targeted Occupations Brochure with definitions: www.interlink-ntx.org



## **Methodology for Targeting Occupations**

InterLink uses the following methods to determine the occupations that will be placed on the final occupation list. The annual survey is most important in that it provides a snapshot of current and future occupation needs for North Central Texas employers.

#### **Labor Markets**

A labor market can be categorized into different components. The industrial labor market generally refers to job opportunities in a specific industry such as health services, business services, building construction, financial services, etc. A labor market can also be defined occupationally. This classifies job opportunities in which one practices a unique set of skills.

#### **Planning for the Future**

The number and type of jobs for North Central Texans in the future will depend on the interaction of many demographic, economic, social, and technological phenomena. The key to good career planning is the understanding of these phenomena and labor market trends. Growth trends for the implementation of career and technological training classes and for career planning should be considered.

#### **Limitations of Labor Market Information**

Knowing where growth will occur is difficult, as is any prediction of the future. Occupational trend analysis is made more difficult by the nature of occupational and labor market information. Statistical data,

#### **How Job Openings Occur**

Job openings are created in two ways. They are created through economic growth and through labor turnover. Economic growth can occur for many reasons, such as technology or consumer preferences creating new products or services, companies moving into an area, new government regulations creating a need for more services, or changing demographics creating a greater demand for the manufacture of specific products. Most job openings, however, are created through labor turnover. As people change jobs, retire, die, etc., they create job openings. If a person is promoted, someone is usually hired to fill the position they left. The job openings created through turnover are not new jobs but jobs created through growth.

valuable for the insights it provides on change and trends in the labor market, is collected sometime after the phenomena occur.

Occupational projections, based on past data, must be pieced together from knowledge of current events, some intuitive common sense, and many assumptions. If some of the assumptions prove to be incorrect, the projections become invalid. Following local, national, and international trends, and including "regional wisdom" supplied by employers through InterLink's Labor Market Survey is essential to making valid assumptions and therefore, fruitful policy.

#### **Employment Projections**

To complete the picture for labor market information for the North Central Texas Region, InterLink needs to have some information about where the economy is going. It is important to know what jobs will be available in the coming months and years, and which jobs will be phased out. Without anticipating where the local area is going, potentially bad decisions can be made.

InterLink engages regional employers through the annual labor market survey and also through the InterLink Future Industry Trends Task Force where industry thought leaders and practitioners provide information about trends in their specific industries.

#### **Labor Market Forecasting Process**

InterLink begins each forecast by using the resources provided by the Bureau of Labor Statistics which produces long term industry and occupation employment projections for the United States. The projections are conducted for a ten year period with the base year always being an even year.

Like the Bureau of Labor Statistics, The Workforce Commission Labor Texas Market Information Department produces long-term industry and occupation employment projections for Texas and its 28 Workforce Development Areas (WDA's) every two years. The projections are done for a ten-year period with the base year always being an even year. The projection process depends on two main ingredients: employment and occupation industry employment within each industry (generally referred to as industry staffing patterns). Staffing patterns are defined as the mix of jobs found in particular industries.

Because InterLink is preparing a report for the 16 county North Central Texas Region, one method of validating the labor market report is to prepare a single labor market report from three workforce the development area labor markets in the and compare the results of region. InterLink's forecast to the results. InterLink therefore conducts four labor market studies before developing the regional labor market study.

The initial projections are reviewed and adjusted using knowledge of the industrial and local conditions not considered in the historical data as described under local wisdom.

Each industry has a unique occupational The growth and decline of structure. individual industries affect the growth and decline of occupations needed to staff these industries. The Texas Workforce Commission automated system is used to produce occupation employment projections and annual average job openings. industry/occupation (I/O) matrix represents the occupational staffing patterns of each 3digit industry by Standard Industrial Classification (SIC). The matrix indicates the industries where people work and the jobs they hold. When developing projections, changes in industry staffing patterns brought about by new technology and changing business practices are also considered.

Projected occupational employment can be analyzed from two perspectives: percent change and numerical change, because one can be large and the other small, depending on the size of employment in the base year. Annual job openings for the ten-year period are produced which include openings due to growth in the industry and openings due to replacement needs of existing job.

#### **Assumptions and Limitations**

The projections reflect studies of past and present industrial trends. They illustrate what is likely to happen, barring major changes from past trends. These projections are based on the same major economic assumptions the BLS uses to develop national projections. These assumptions are:

- No major events such as widespread or long-lasting energy shortages, oil embargoes, other price shocks, or major wars will significantly alter the economy's industrial structure or economic growth rates.
- The national economic institutional framework will not change radically.
- Current social, technological, and scientific trends will continue, including the value placed on work, education, income, and leisure.

It is unlikely that these projections will precisely predict actual employment developments, because the economy is sensitive to unforeseen local, state, national, and international trends and policies. However, the basic trends should prove accurate and aid in successful decision-making.

In addition to assumptions concerning longrange economic conditions, assumptions are also made regarding short-term occurrences. The projection process does not allow for cyclical or seasonal changes, or other events such as large plant openings or closings. Exceptions include cases in which manual adjustments are made before publication to accommodate known pending changes.

Rigorous analysis of state-supplied data may include but is not limited to the following:

#### **Shift-Share Analysis**

What resources do various communities or neighborhoods have that are likely to give them comparative economic advantages over others in competing for a niche in the local labor market? To what extent are local firms ahead of or behind global, national, or statewide trends in their respective industries? To what extent are they caught up in or insulated from broader trends? To what extent do local businesses shape broader trends and lead their respective industries? What portion of aggregate trend data—e.g., the emergence of a new and unprecedented occupational cluster, is the result of local business activity? At what example, localized point, for will employment demand for an emerging occupation reach critical mass necessitating a commitment of resources to develop and deliver a responsive curriculum?

#### **Input-Output Analysis**

Given broad statewide trends and local comparative advantages, how are the effects of employment growth or decline in one industry likely to ripple through other sectors of the local economy? How will a new business or the expansion of an existing firm involving X employees and \$Y payroll impact the local tax base? new/expanded business likely to do its banking, finance, accounting, and legal work, etc. locally? Can it depend on distant vendors or will it spawn spin-offs locally to provide supplies, parts, and business services? Will its payroll be large enough and will its workers have sufficient spendable income to support new eating and drinking establishments or additional recreation and entertainment facilities. increase retail sales, and drive up demand for new construction and more personal

services? Objective regional data collection also is a necessary component of local wisdom. The key word is "objective," as opposed to "inspired" research. The point is to not start with a foregone conclusion then selectively for any shred of supporting evidence. Known gaps in stateprovided data should be filled not by asking stakeholders self-interested for their opinions but rather by seeking valid, reliable, and verifiable evidence from neutral parties.

The process of acquiring local wisdom is subject to constant review and continuous improvement. Blending available labor market information with the insight of regional wisdom can go a long way in the design and implementation of a successful workforce development program.

#### **Job Postings**

A relatively new addition to Labor Market Forecasting is the review of job postings identifying the need for particular occupations in a particular area. This can be an additional tool to use, however, as indicated in an April 17, 2015 article in Harvard Business Review on Job Postings, Job Postings don't always equal jobs: "Economists sometimes use online job postings to gauge employment demand. But that data turns out to be an unreliable proxy. Why? For one thing, tech and other whitecollar workers are more likely than others to search for jobs online—after all, that's where many of them work—and so employers are more likely to post listings for those positions, often advertising the same job multiple times. Also, companies tend to flood job boards when the listing firms are offering discounts, regardless of their need for workers."

One job posting could be for several jobs or many different posting could be for one job and if a job posting is removed, it may have not had a successful hire. Job postings can however, give insight into the skills and credentials that employers are seeking, and the number of job postings in a certain area can be an indicator of where labor market opportunities exist.

# InterLink's Regional or Local Wisdom from the Annual Labor Market Survey

Used with the other tools for Labor Market Forecasting, InterLink's Annual Labor Market Survey continues to be the best indicator of the North Central Texas Region labor market. Conducted online at a survey web hosting site, local opinion data comes from a control group of businesses who have participated in the survey annually as well as a genuinely random sample of businesses representing industries distributed by area chambers of commerce and business associations. The survey instrument initially developed for InterLink by GTE (now Verizon) so that the questions are truly impartial.

The wording of the survey was written so that occupations showing the greatest growth potential are listed by title, and open ended questions allow employers to add other occupations of need. Those surveyed are solicited from a sample of regional public and private employers throughout InterLink's sixteen county region and includes county and municipal government, business and trade association membership organizations representing growing industries, secondary and post-secondary education institutions, utility companies, economic developers, and membership of local chambers of commerce.

**InterLink's Future Industry Trends Task Force** (Reports at:www.interlink-ntx.org) InterLink's Future Industry Trends Task Force conducts sessions with industry thought leaders and futurists to determine trends that may affect the industries in the future. These sessions are captured in reports that provide additional resources for labor market forecasting.

#### **InterLink's Preliminary Targeted Occupations List**

In the past, the Texas Workforce Commission defined high wage and high demand occupations in accordance with the definitions established by the Bureau of Labor Statistics (BLS). However, they are no longer giving guidance on this indicator. The BLS definitions were used to assure that each state-recognized Career and Technology (CTE) program of study leads to highwage or high-demand occupations.

- InterLink has chosen to continue using this indicator until the Bureau of Labor Statistics or the Texas Education Agency implements an update of the data.
  - o "A high wage occupation is defined as an occupation that exceeds the median weekly wage threshold for all earners."
  - o "In support of economic development for the state, communities should consider offering Career and Technology Education programs for occupations that significantly exceed the median wage threshold for their region."

The Texas Workforce Commission has 28 approved Local Workforce Development Boards (LWDB) and permits each workforce board to publish its own demand occupations list based on local needs. Given the size of Texas and its geographic economic differences, Texas' community and technical colleges will apply the statewide percentage to occupations identified by their respective LWDB and/or the strategic planner forecasting data (such as InterLink).

- Career and Technical Education and program accountability purposes define high skill occupations as those that 1) require licensure, or 2) require apprenticeship, or 3) are identified by the Texas Skills Standards Board.
- Education time is the minimum required for entry level to the highest expected degree or education.
- Exceptions include occupations considered as critical need by employers that may not meet all of the above criteria.

#### **Factors of Change**

InterLink also measures the potential for an occupation to remain viable for future employment by measuring them against factors which are considered to be primary causes for changes in the workforce. The most measurable factors include: Growing use of computers and other automation and technological changes; Changes in business practices; Demographic Trends; Changes in the way medical care is provided; Trends in law, law enforcement, and government regulation, and; Offshoring/Outsourcing of jobs and people.

#### **Emerging or Evolving Occupations**

InterLink uses several sources for occupations that may evolve (current occupations which may change due to technology or other influences) or emerge (new occupations that appear in the labor market.) The Texas Workforce Commission provides information through the Labor Market Career Information (LMCI) Department, the Department of Labor, O\*NET identifies emerging and evolving occupations, and Texas State Technical College in Waco identifies emerging and evolving occupations. InterLink also uses the occupations that have been identified when surveying North Central Texas employers for regional wisdom into the emerging workforce. The occupations are validated through InterLink's annual labor market survey to determine how quickly they are evolving. Once an occupation is issued a SOC or O\*Net Code it is placed on InterLink's Targeted Occupations List to forecast future occupations. InterLink's Business Partners also assist in determining Macro Industry Trends to watch that may impact occupations in the future.

#### **Targeted Occupations Brochure**

Upon approval of the InterLink Targeted Occupations by the InterLink Board of Directors, the results are developed into a Targeted Occupations brochure. Finally, a resource guide is produced in CD format, which offers in-depth descriptions of each occupation as well as an overview of the national and local labor markets. These and other resources to help educators understand the regional labor market are provided to the education community.



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