



Occupation Report

Information Technology (CTE Cluster)

Lexington-Fayette, KY MSA



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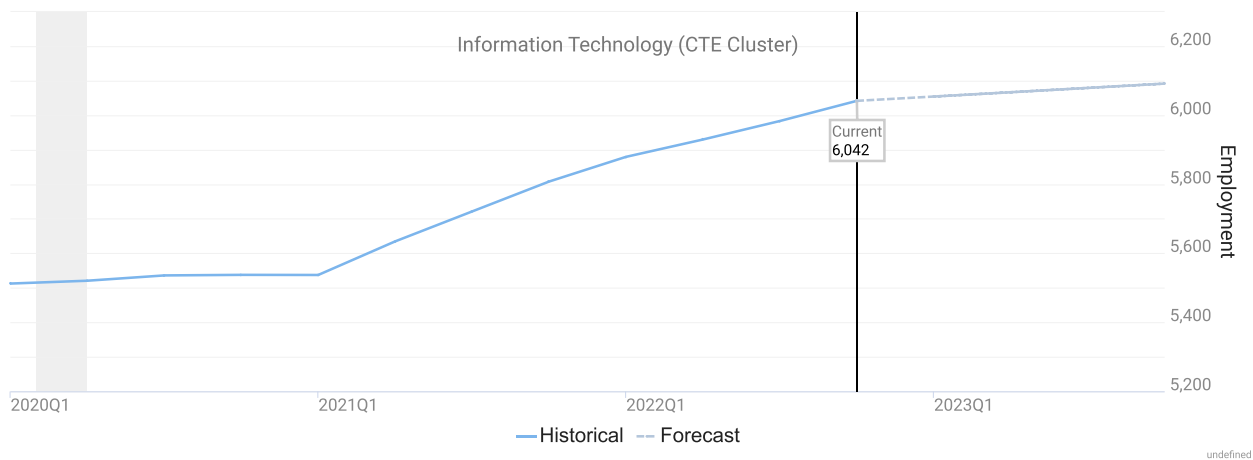
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Occupation Snapshot

6-Digit Occupation	Empl	Avg Mean Wages	LQ	3-Year Empl Change	Annual Demand	Forecast Ann Growth
Software Developers	1,450	\$107,300	0.44	432	124	1.6%
Computer User Support Specialists	1,053	\$53,800	0.83	41	88	0.5%
Computer Systems Analysts	750	\$93,500	0.75	1	55	0.3%
Computer Occupations, All Other	528	\$83,000	0.64	29	41	0.5%
Network and Computer Systems Administrators	517	\$78,600	0.85	-14	37	0.3%
Computer Network Support Specialists	335	\$66,500	0.99	6	29	0.7%
Software Quality Assurance Analysts and Testers	299	\$78,700	0.67	89	28	1.9%
Computer Programmers	249	\$77,500	0.82	-109	13	-1.3%
Computer Network Architects	227	\$95,700	0.69	11	15	0.4%
Information Security Analysts	158	\$95,300	0.51	15	17	2.8%
Remaining Component Occupations	475	\$77,500	0.66	129	38	0.7%
Information Technology (CTE Cluster)	6,042	\$83,700	0.64	628	487	0.8%





💡 “Annual Demand” is the projected need for new entrants into an occupation. New entrants are needed due to expected growth and to replace workers who left the occupation due to factors such as retirement or switching careers.

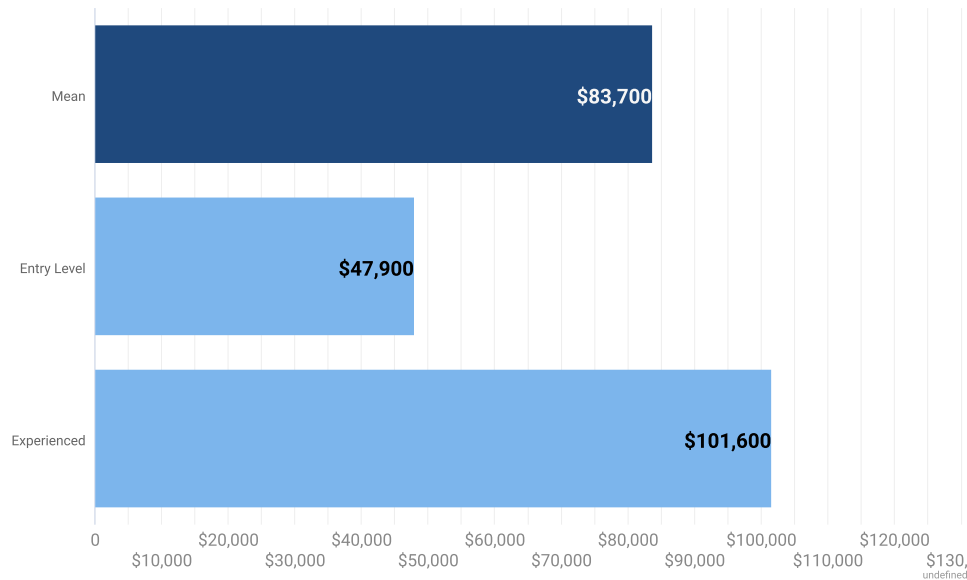
💡 “Forecast Ann Growth” is the expected change in jobs due to national, long-term trend projections (per the BLS) as well as local factors such as industry mix and population growth (as computed and modeled by Chmura).

Employment by Industry

Industry Title	% of Occ Empl	Empl	10-Year Separations	10-Year Empl Growth	10-Year Total Demand
Computer Systems Design and Related Services	21.4%	1,295	984	253	1,238
Colleges, Universities, and Professional Schools	7.8%	474	345	18	362
Management of Companies and Enterprises	4.9%	293	209	10	219
Other Professional, Scientific, and Technical Services	4.6%	281	192	4	196
Management, Scientific, and Technical Consulting Services	4.3%	263	190	22	212
Employment Services	4.2%	252	184	13	197
General Medical and Surgical Hospitals	4.1%	248	172	-10	162
Computing Infrastructure Providers, Data Processing, Web Hosting, and Related Services	4.1%	247	189	50	239
Computer and Peripheral Equipment Manufacturing	3.9%	235	170	25	195
Architectural, Engineering, and Related Services	2.7%	160	111	2	113
Depository Credit Intermediation	2.0%	120	88	14	103
Office Administrative Services	1.8%	111	81	10	91
Software Publishers	1.8%	109	79	10	89
Wired and Wireless Telecommunications (except Satellite)	1.5%	93	65	-5	60
Elementary and Secondary Schools	1.4%	85	63	1	64
Web Search Portals, Libraries, Archives, and Other Information Services	1.4%	83	65	26	91
Agencies, Brokerages, and Other Insurance Related Activities	1.3%	81	58	5	63
Aerospace Product and Parts Manufacturing	1.1%	66	45	0	44
Executive, Legislative, and Other General Government Support	1.1%	65	46	0	46
Business Support Services	1.0%	59	44	2	45
All Others	23.5%	1,422	1,033	69	1,102

-  The industry distribution indicates the industries in which workers in the occupation(s) are primarily found.
-  “10-Year Empl Growth” may show industries with positive as well as negative growth; this would indicate that the occupation(s) being examined are expected to expand within some industries while contracting in others.

Wages



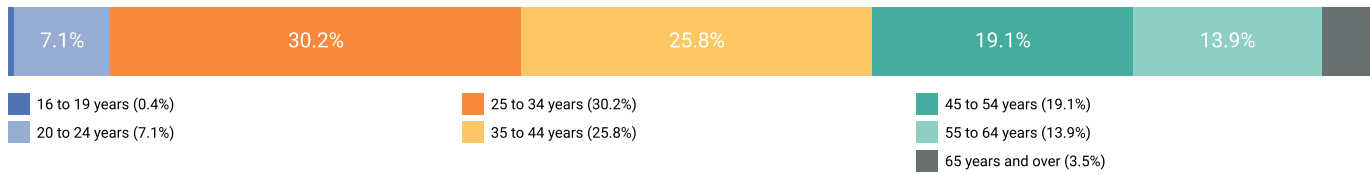
Occupation	Mean	Median	Entry Level	Experienced
Software Developers	\$107,300	\$105,900	\$71,300	\$125,300
Database Architects	\$104,400	\$104,800	\$62,200	\$125,500
Computer Network Architects	\$95,700	\$83,900	\$59,200	\$114,000
Information Security Analysts	\$95,300	\$84,000	\$56,100	\$114,900
Computer Systems Analysts	\$93,500	\$84,200	\$56,100	\$112,100
Computer Occupations, All Other	\$83,000	\$79,300	\$43,600	\$102,700
Database Administrators	\$81,100	\$80,800	\$55,900	\$93,700
Software Quality Assurance Analysts and Testers	\$78,700	\$66,700	\$57,900	\$89,000
Network and Computer Systems Administrators	\$78,600	\$78,500	\$54,300	\$90,800
Computer Programmers	\$77,500	\$72,000	\$55,400	\$88,600

 Occupation wages here utilize BLS OEWS data, imputed and brought forward by Chmura.

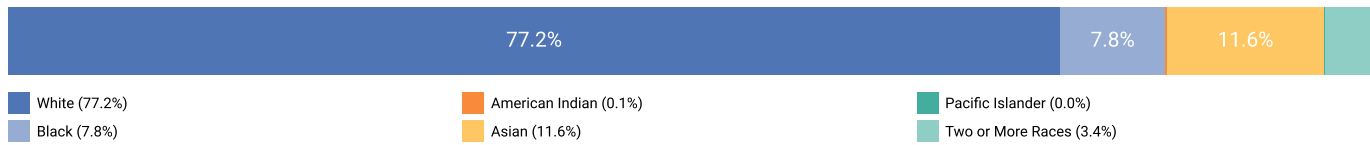
 When this report is run for an occupation group, the table above displays up to the top ten detailed occupations which have the highest average wages within the occupation group.

Occupation Demographics

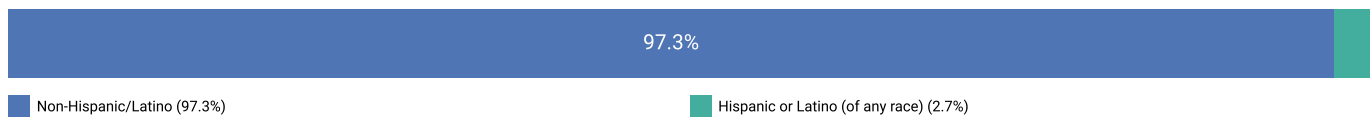
Age



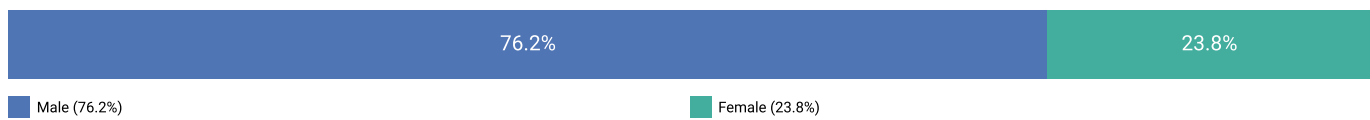
Race



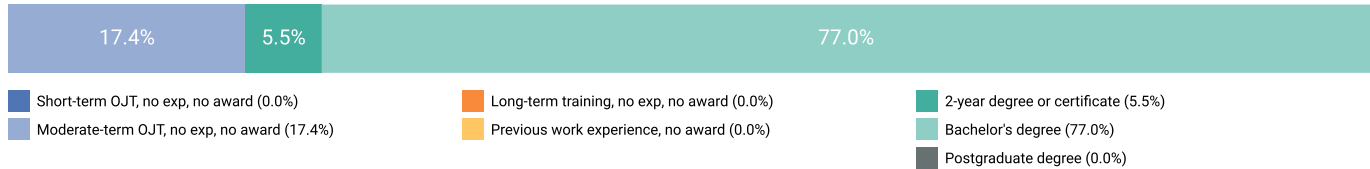
Ethnicity



Gender

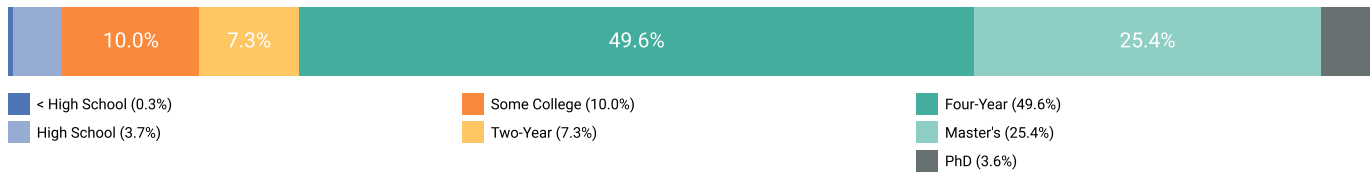


Education and Training Requirements



Education Profile

Educational Attainment




Occupation	Typical Entry-Level Education	Previous Work Experience	Typical On-the-Job Training
Software Developers	Bachelor's degree	None	None
Computer User Support Specialists	Some college, no degree	None	Moderate-term on-the-job training
Computer Systems Analysts	Bachelor's degree	None	None
Computer Occupations, All Other	Bachelor's degree	None	None
Network and Computer Systems Administrators	Bachelor's degree	None	None
Computer Network Support Specialists	Associate's degree	None	Moderate-term on-the-job training
Software Quality Assurance Analysts and Testers	Bachelor's degree	None	None
Computer Programmers	Bachelor's degree	None	None
Computer Network Architects	Bachelor's degree	5 years or more	None
Information Security Analysts	Bachelor's degree	Less than 5 years	None


 The stacked bar chart here illustrates the estimated mix of educational attainment of the workers in this occupation(s) in aggregate.

 The table indicates typical education and training requirements rather than the mix of attainment of workers in such positions.

Postsecondary Programs Linked to Information Technology (CTE Cluster)

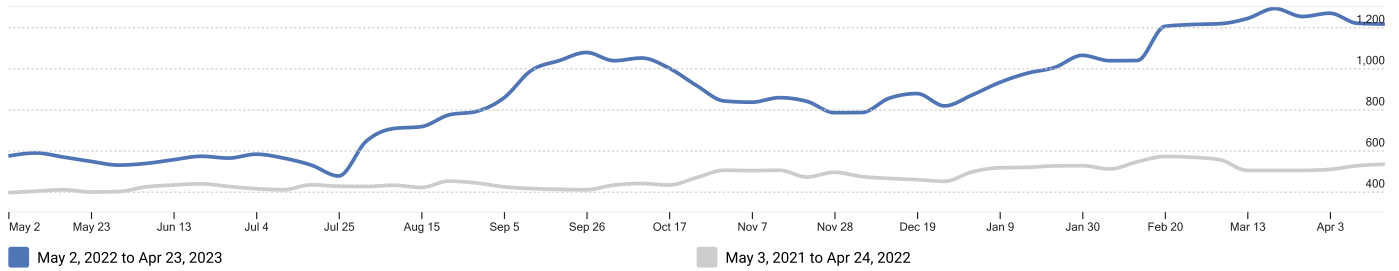
Program	Awards
Bluegrass Community and Technical College	
Computer and Information Sciences, General	555
Web Page, Digital/Multimedia and Information Resources Design	57
Transylvania University	
Computer and Information Sciences, General	3
University of Kentucky	
Computer and Information Sciences, General	143
Computer and Information Systems Security/Auditing/Information Assurance	16
Computer Engineering, General	43
Data Science, General	1
Design and Visual Communications, General	1
Informatics	0
Information Science/Studies	49

 The number of graduates from postsecondary programs in the region identifies the pipeline of future workers as well as the training capacity to support industry demand.

 Among postsecondary programs at schools located in the Lexington-Fayette, KY MSA, the sampling above identifies those most linked to Information Technology (CTE Cluster). For a complete list see JobsEQ®, <http://www.chmuraecon.com/jobseq>

RTI (Job Postings)

Active Job Ads by Date



💡 Online job ads are a timely indicator of local demand. Occupation assignments shown below are made by Chmura based upon analysis of job titles and job descriptions. Top employers and listed job requirements are shown on the following pages.

Occupations

SOC	Occupation	Active Job Ads
15- 1232.00	Computer User Support Specialists	1,722
15- 1252.00	Software Developers	1,374
15- 1244.00	Network and Computer Systems Administrators	979
15- 1299.08	Computer Systems Engineers/Architects	872
15- 1299.09	Information Technology Project Managers	413
15- 1211.00	Computer Systems Analysts	346
15- 1212.00	Information Security Analysts	314
15- 1253.00	Software Quality Assurance Analysts and Testers	175
15- 1242.00	Database Administrators	108
15- 1254.00	Web Developers	96

Locations

Location	Active Job Ads	
Frankfort, Kentucky	3,089	
Lexington, Kentucky	1,106	
Lexington, KY 40506	282	
Lexington, KY 40507	186	
Georgetown, Kentucky	128	
Frankfort, KY 40601	127	
Winchester, Kentucky	114	
40601	108	
Frankfort, Kentucky 40601	79	
Lexington, KY 40502	54	

Employers

Employer Name	Active Job Ads	
University of Kentucky	483	
Meta	208	
Oracle	141	
Molina Healthcare	139	
Commonwealth of Kentucky	126	
TEKsystems	91	
ICF	90	
Intel	88	
Valvoline	84	
Deloitte	75	

Hard Skills

Skill Name	Active Job Ads	
Computer Programming/Coding	1,569	
Agile	1,434	
Structured Query Language (SQL)	1,155	
JavaScript	1,099	
Python	926	
Java	888	
Microsoft Azure	862	
Amazon Web Services (AWS)	835	
Linux	717	
Microsoft Office	602	

Job Titles

Job Title	Active Job Ads	
Software Engineer	30	
Analyst, Config Info Mgmt - QNXT - Remote	26	
Analyst, Configuration Oversight (QNXT & Medicare) - Remote	25	
Field Service Technician	20	
Desktop Support Technician	19	
Database Analyst	18	
Software Developer	16	
Principal Engineer - Middleware/Cloud - Remote	15	
Field Service Engineer	14	
Systems Consultant IT	14	

Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	3,613	
Associate's degree	474	
High school diploma or equivalent	448	
Master's degree	139	
Doctoral or professional degree	24	
Unspecified/other	1,977	

Programs

Program Name	Active Job Ads	
Computer Science	1,814	
Engineering	520	
Information Technology	423	
Computer Engineering	324	
Technical	224	
Electrical Engineering	220	
Business	214	
Information Systems	213	
Mathematics	164	
Management Information Systems	122	

Top Skill and Certification Gaps

Top 10 Skill Gaps in Lexington-Fayette, KY MSA

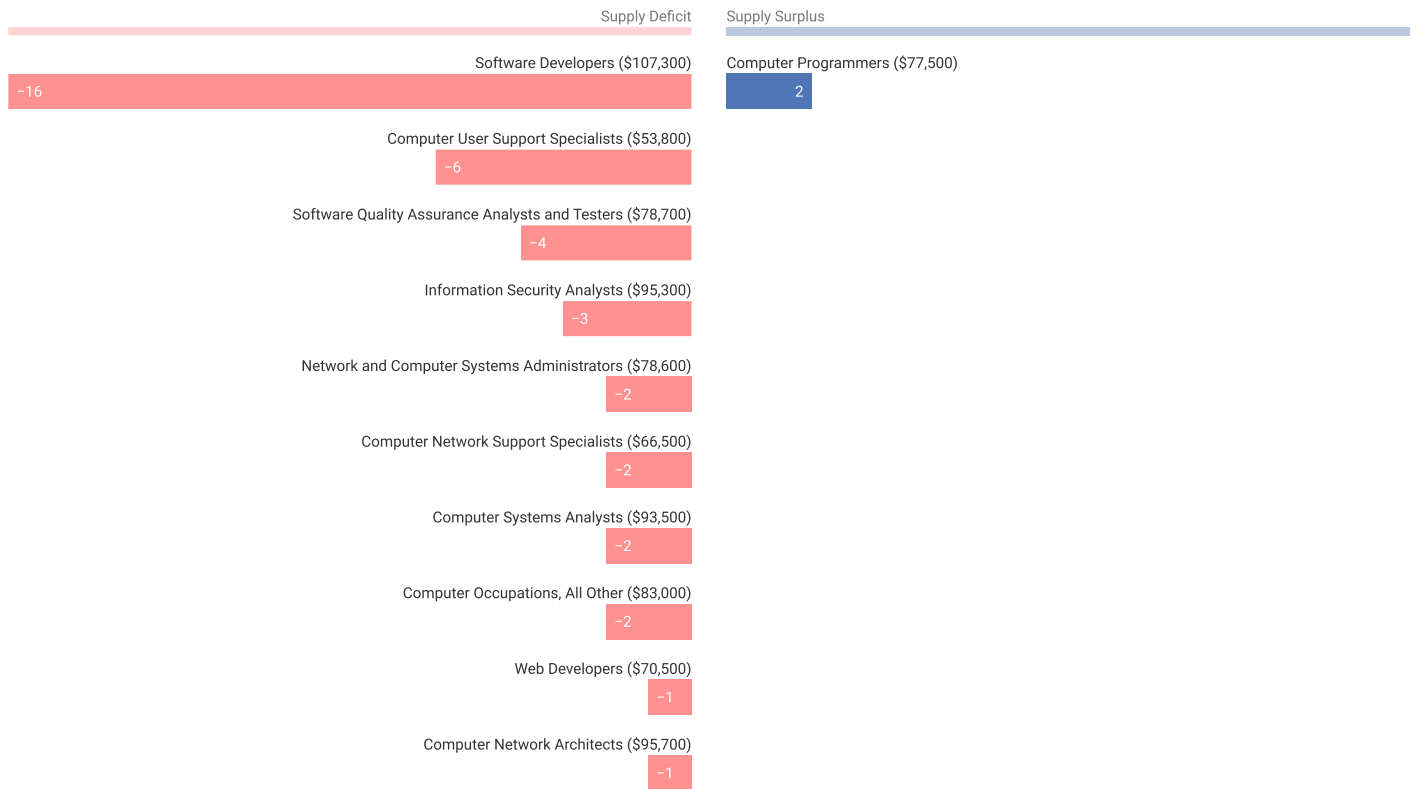
Name	Candidates	Openings	Gap
Agile	61	82	-21
Structured Query Language (SQL)	84	102	-18
Microsoft Azure	38	53	-16
Model View Controller (MVC)	10	23	-13
CSS	32	44	-12
Manufacturing	9	19	-11
Virtual Private Networking Software (VPN Software)	5	15	-10
Microsoft Active Directory	19	28	-9
Telecommunications	7	16	-9
TCP/IP	11	19	-8

Top 10 Certification Gaps in Lexington-Fayette, KY MSA

Name	Candidates	Openings	Gap
Cisco Certified Network Professional (CCNP)	1	7	-5
Certified Information Security Manager (CISM)	1	4	-3
CompTIA Security+ CE (Continuing Education) Certification	1	3	-2
Cisco Certified Internetwork Expert (CCIE)	0	2	-2
Certified Information Systems Auditor (CISA)	1	3	-2
Certified Cloud Security Professional (CCSP)	0	1	-1
Certification in Risk and Information Systems Control (CRISC)	0	1	-1
Certified in the Governance of Enterprise IT (CGEIT)	0	1	-1
Offensive Security Certified Professional (OSCP)	0	1	-1
Certified Information Systems Security Professional (CISSP)	8	9	0

 Skill and certifications gaps can help inform employee development programs, as well as provide a comparison of the needs of regional employers to the supply.

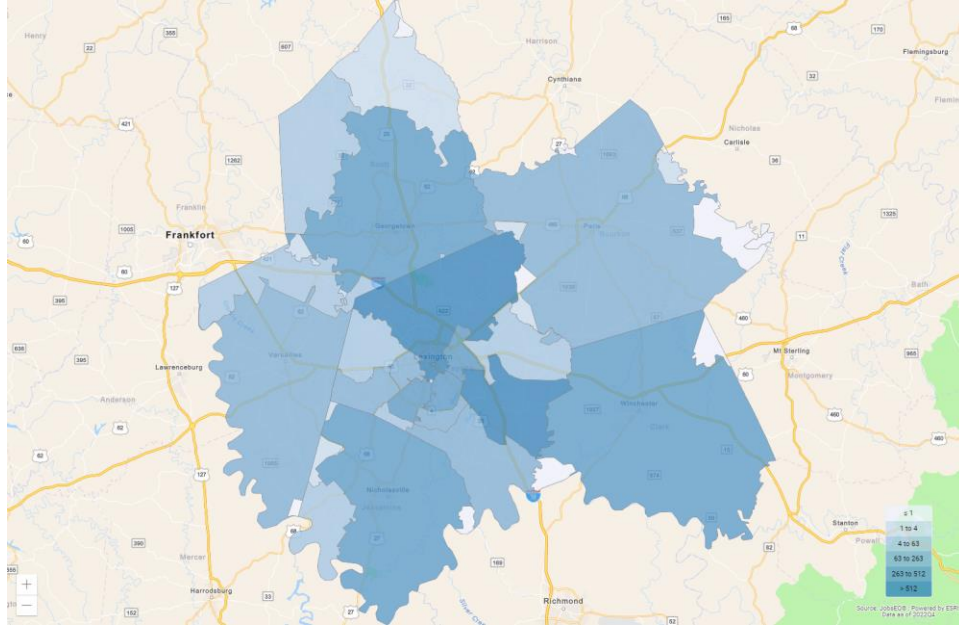
Occupation Gaps



💡 The above are the potential average annual gaps over 10 years. Many variables go into this analysis, but at its core it is based on a forecast comparing occupation demand growth to the local population growth and the projected educational attainment of those residents. When an area, for example, has an occupation expected to grow quickly but the educational requirement for the occupation does not match well with the educational attainment of its residents, there is a high potential for an occupation shortfall in the region. Alternatively, slow-growing or contracting occupations often represent potential supply surpluses.

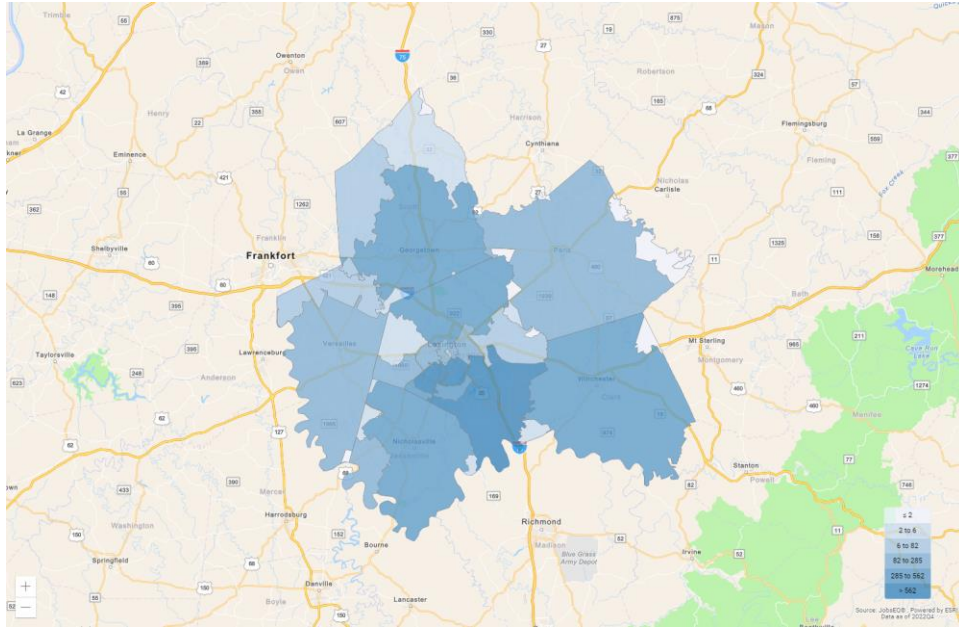
💡 The potential supply shortfall is an underlying force that the market needs to resolve one way or another, such as by employers recruiting from further distances for these occupations, wages going up to attract more candidates, and/or increased demand and wages enticing more local residents to get training for these occupations. While this an important analysis for determining local occupation needs, the occupation gap should be considered along with other regional data including growth and separation forecasts, unemployment rates, wage trends, and award and skill gap analyses.

Geographic Distribution



Top ZCTAs by Place of Work for Information Technology (CTE Cluster), 2022Q4

Region	Employment
ZCTA 40511 (Fayette County, KY portion)	895
ZCTA 40509	729
ZCTA 40508	673
ZCTA 40507	512
ZCTA 40503	498
ZCTA 40391	393
ZCTA 40324 (Scott County, KY portion)	330
ZCTA 40502	327
ZCTA 40505	271
ZCTA 40356	264

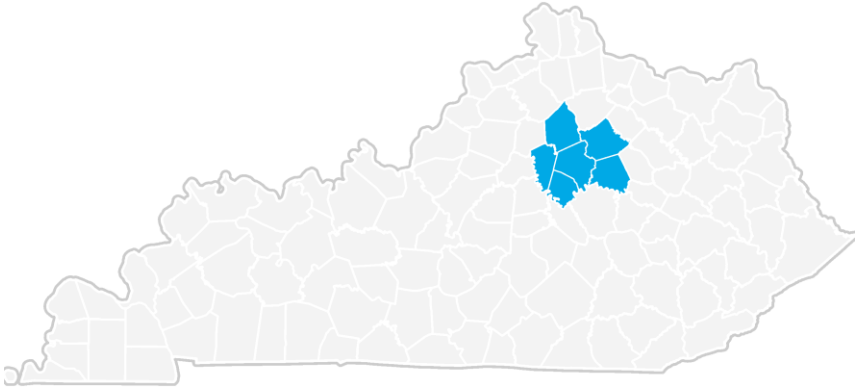


Top ZCTAs by Place of Residence for Information Technology (CTE Cluster), 2022Q4

Region	Employment
ZCTA 40509	912
ZCTA 40515 (Fayette County, KY portion)	739
ZCTA 40502	693
ZCTA 40503	562
ZCTA 40517	462
ZCTA 40511 (Fayette County, KY portion)	443
ZCTA 40324 (Scott County, KY portion)	398
ZCTA 40514	365
ZCTA 40391	353
ZCTA 40356	285

💡 “Place of work” employment is based upon the location of employers for these workers. “Place of residence” data refers to the home locations of the workforce, which is typically the preferred data set to use when calculating labor availability within a drive-time or radius of a potential worksite.

Lexington-Fayette, KY MSA Regional Map



Data Notes

- Occupation employment by default indicates employment by place of work. Occupation employment is as of 2022Q4 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS OEWS data. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts. Wages by occupation are as of 2022Q4, utilizing BLS OEWS data, imputed and brought forward by Chmura. Entry-level and experienced wages are derived from these source data, computed by Chmura.
- Industry employment is as of 2022Q4 and is based upon BLS QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including Census ZBP data.
- Education and training requirements are from the BLS. Educational attainment mix and other occupation demographics data are modeled by Chmura for 2022Q4 using regional occupation employment from JobsEQ, ZCTA-level demographics data from the Census Bureau, and national occupation-demographics patterns from the BLS.
- Postsecondary awards are per the NCES and are for the 2020-2021 academic year. Any programs shown are linked with the occupation(s) being analyzed via the program-occupation crosswalk, which may not be comprehensive. Any programs shown reflect only data reported to the NCES; reporting is required of all Title IV schools. Training providers that do not report data to the NCES are not reflected.
- Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 40,000 websites. Data reflect ads active during the last twelve month period ending 04/27/2023 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced. Historical ad volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution. All ad counts represent deduplicated figures.
- For skill and certification gaps, openings and candidates are based upon regional occupation demand (growth plus separations) and the percent of skill demand and supply. Skill demand mix data are per a one-year sample of RTI data; skill supply data are estimated using a five-year sample of resumes data; both data sets compiled as of August 2021. Data may be based, at least in part, on data from broader geographies; see the Skill Gaps analytic export for more details.
- Occupation gaps are modeled by Chmura, indicating long-term potential supply and demand mismatches in a region due, in part, to job demand and labor pool dynamics, including educational attainment and projected growth.
- Occupation employment by place of residence is as of 2022Q4 and modeled by Chmura based upon occupation employment by place of work and commuting patterns. Commuting patterns are derived from source data from the Census Bureau, occupation-specific commuting tendencies, and updated to reflect more recent population and employment estimates.
- Figures may not sum due to rounding.

Region Definition

Lexington-Fayette, KY MSA is defined as the following counties:

Bourbon County, Kentucky

Clark County, Kentucky

Fayette County, Kentucky

Jessamine County, Kentucky

Scott County, Kentucky

Woodford County, Kentucky

FAQ

What is (LQ) location quotient?

Location quotient is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an industry (or occupation) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is annual demand?

Annual demand is a of the sum of the annual projected growth demand and separation demand. Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. Growth demand is the increase or decrease of jobs expected due to expansion or contraction of the overall number of jobs.