

# Occupational Outlook for the Louisville Region

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# Notes

The occupations highlighted in this report are those projected to have the largest numeric gains within each sector in the Louisville/Jefferson County Metropolitan Statistical Area (MSA) between 2018 and 2028. Job growth does not include turnover or retirements, but instead focuses on the projected number of new jobs expected within the Louisville area economy.

Data sources:

Emsi Analyst, 2018.Q3

Burning Glass Labor Insights

O\*NET

Bureau of Labor Statistics

# Business, Finance, and Law

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Accountants and Auditors	4,761	210	\$30	\$62,040	Bachelor's degree
Claims Adjusters, Examiners, and Investigators	3,050	84	\$22	\$46,310	High school diploma or equivalent
Human Resources Specialists	2,359	324	\$25	\$52,040	Bachelor's degree
Market Research Analysts and Marketing Specialists	2,149	166	\$26	\$53,630	Bachelor's degree
Lawyers	1,980	62	\$41	\$85,420	Doctoral or professional degree
Management Analysts	1,922	278	\$35	\$72,310	Bachelor's degree
Training and Development Specialists	1,511	55	\$26	\$54,850	Bachelor's degree
Administrative Services Managers	1,180	80	\$34	\$70,160	Bachelor's degree
Paralegals and Legal Assistants	1,176	55	\$20	\$41,980	Associate's degree
Financial Analysts	1,011	81	\$30	\$61,800	Bachelor's degree
Cost Estimators	983	48	\$29	\$60,410	Bachelor's degree
Logisticians	933	37	\$33	\$69,370	Bachelor's degree
Compliance Officers	829	42	\$28	\$57,750	Bachelor's degree
Fundraisers	309	9	\$22	\$45,080	Bachelor's degree
Compensation, Benefits, and Job Analysis Specialists	297	59	\$26	\$53,710	Bachelor's degree

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth	National Growth	
Market Research Analysts and Marketing Specialists	333	15%	21%
Management Analysts	206	11%	13%
Accountants and Auditors	189	4%	11%
Training and Development Specialists	100	7%	11%
Claims Adjusters, Examiners, and Investigators	93	3%	2%
Human Resources Specialists	82	3%	8%
Administrative Services Managers	72	6%	10%
Paralegals and Legal Assistants	66	6%	13%
Compliance Officers	61	7%	9%
Lawyers	49	2%	9%
Financial Analysts	45	4%	10%
Compensation, Benefits, and Job Analysis Specialists	37	12%	10%
Cost Estimators	20	2%	11%
Logisticians	20	2%	7%
Fundraisers	20	6%	15%

Business, finance, and legal occupations are projected to grow faster than the average for all occupations. Demand for these workers will stem from a growing economy and increased usage of data to understand customers and product demand.

## Skills and Abilities

- Critical thinking
- Complex problem solving
- Judgment and decision making
- Active listening
- Information ordering
- Active learning
- Speaking
- Oral expression
- Reading comprehension
- Oral comprehension
- Writing
- Written comprehension
- Mathematics
- Deductive reasoning
- Persuasion

## *Select job descriptions*

Before a new product goes out to stores, someone needs to figure out if people want it. **Market research analysts and marketing specialists** conduct research to determine if there is a need for the product and what people will pay for it. They often conduct surveys or work with pollsters to get a survey. They do in depth research on similar products to make sure that the new product is competitive in the area where it will be sold.

**Management analysts** study many aspects of a company and then recommend ways to make it more profitable and efficient. They are known for recommending lay offs as a way of increasing a company's revenues.

**Human resources specialists** are the starting point for people who have recently been hired by a company. These specialists shepherd new employees through their benefits options and give the new employees tax forms to fill out. Human resources specialists are also often responsible for the first phase of hiring new employees. They may be called upon to determine if an applicant for employment meets the minimum criteria for the job.

A **compliance officer** is basically an internal police force for a company. She makes sure that the business she works for is complying with details of the law with which some employees might be unfamiliar. For instance, she might recommend that certain company documents come with disclaimers. She might also make sure that the working environment conforms to health and safety standards.

Most big companies offer benefits to employees. These benefits include things like health insurance, life insurance, and retirement programs. The **compensation, benefits, and job analysis specialist** studies the benefits at her company and other companies to make sure that her company's benefits package is fair and attractive. These specialists also examine job descriptions to make sure they are accurate and up-to-date, and they work with other people in the human resources department to update them.

If a skyscraper is going to be built or if new software is being designed, someone needs to know how much money it will cost. The **cost estimator** researches the price of materials, like lumber and steel, labor costs, , as well as hidden costs that might not occur to other people. Cost estimators usually specialize in one industry like construction, aircraft, government programs, or manufacturing.

**Logisticians** keep track of where supplies are coming from, where they are going, and whether they are staying on schedule. They often work for the federal government and the military, but a percentage of them work in the private sector. Logisticians usually manage large shipments of materials and use software to keep track of these shipments. If something goes wrong with transport, they work quickly to resolve the problem.

For additional information on jobs in the Louisville region visit <http://careercalculator.org>.

For questions or feedback about this report email [sarah.ehresman@kentuckianaworks.org](mailto:sarah.ehresman@kentuckianaworks.org).

# Construction

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Construction Laborers	3,572	135	\$16	\$33,620	No formal educational credential
Electricians	3,098	93	\$27	\$55,650	High school diploma or equivalent
Plumbers, Pipefitters, and Steamfitters	2,479	44	\$25	\$51,780	High school diploma or equivalent
Carpenters	2,405	78	\$20	\$40,980	High school diploma or equivalent
First-Line Supervisors of Construction Trades and Extraction Workers	2,007	38	\$28	\$57,650	High school diploma or equivalent
Operating Engineers and Other Construction Equipment Operators	1,377	33	\$22	\$45,960	High school diploma or equivalent
Cement Masons and Concrete Finishers	833	23	\$17	\$36,230	No formal educational credential
Construction Managers	807	106	\$35	\$73,180	Bachelor's degree
Roofers	538	24	\$18	\$36,800	No formal educational credential
Sheet Metal Workers	417	16	\$21	\$44,140	High school diploma or equivalent
Highway Maintenance Workers	404	11	\$16	\$33,920	High school diploma or equivalent
Construction and Building Inspectors	393	17	\$25	\$52,880	High school diploma or equivalent
Insulation Workers, Mechanical	262	0	\$17	\$36,200	High school diploma or equivalent

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth	National Growth	
Plumbers, Pipefitters, and Steamfitters	219	9%	17%
Construction Laborers	155	4%	15%
Electricians	145	5%	10%
First-Line Supervisors of Construction Trades and Extraction Workers	82	4%	14%
Carpenters	51	2%	10%
Construction Managers	50	6%	14%
Cement Masons and Concrete Finishers	32	4%	14%
Insulation Workers, Mechanical	31	12%	12%
Operating Engineers and Other Construction Equipment Operators	22	2%	13%
Sheet Metal Workers	21	5%	10%
Construction and Building Inspectors	15	4%	10%
Roofers	13	2%	13%
Highway Maintenance Workers	13	3%	6%

Construction occupations are projected to grow faster than the average for all occupations. Demand for these workers will stem from overall growth in the economy and population, which will increase demand for new buildings, roads, and other structures.

## Skills and Abilities

- Active listening
- Judgment and decision making
- Critical thinking
- Complex problem solving
- Troubleshooting
- Coordination
- Social perceptiveness
- Oral expression
- Reading comprehension
- Oral comprehension
- Deductive reasoning
- Recognizing when problems arise
- Information ordering

## *Select job descriptions*

**Cement masons and concrete finishers** smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. They also align forms for sidewalks, curbs, or gutters, patch voids, and use saws to cut expansion joints.

**Mechanical insulation workers** apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.

**Operating engineers and other construction equipment operators** use one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. They may also repair and maintain equipment in addition to other duties.

**Construction and building inspectors** check structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

**Highway maintenance workers** provide upkeep on highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway.

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# Education

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Elementary School Teachers	4,960	66	\$28	\$57,470	Bachelor's degree
Teacher Assistants	4,246	55	\$14	\$29,040	Some college, no degree
Postsecondary Teachers	3,710	77	\$29	\$61,270	Doctoral or professional degree
Secondary School Teachers	3,582	59	\$29	\$60,020	Bachelor's degree
Middle School Teachers	2,152	170	\$28	\$58,920	Bachelor's degree
Preschool Teachers	1,726	113	\$12	\$25,020	Associate's degree
Child, Family, and School Social Workers	1,627	41	\$19	\$38,760	Bachelor's degree
Education Administrators, Elementary and Secondary School	1,083	46	\$48	\$99,110	Master's degree
Substitute Teachers	684	0	\$11	\$22,580	Bachelor's degree
Librarians	436	10	\$30	\$62,210	Master's degree
Education Administrators, Postsecondary	388	81	\$33	\$68,920	Master's degree
Education Administrators, Preschool and Childcare Center/Program	268	29	\$20	\$41,370	Bachelor's degree
Library Technicians	237	0	\$16	\$32,310	Postsecondary nondegree award

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth	National Growth	
Postsecondary Teachers	275	7%	12%
Preschool Teachers	137	8%	11%
Teacher Assistants	128	3%	9%
Elementary School Teachers	59	1%	8%
Secondary School Teachers	41	1%	8%
Substitute Teachers	21	3%	8%
Middle School Teachers	20	1%	8%
Education Administrators, Preschool and Childcare Center/Program	18	7%	12%
Child, Family, and School Social Workers	17	1%	14%
Education Administrators, Postsecondary	16	4%	10%
Librarians	14	3%	9%
Library Technicians	13	5%	11%
Education Administrators, Elementary and Secondary School	11	1%	9%

Education occupations are projected to grow about as fast as the average for all occupations. Demand for these workers will stem from increasing school enrollment at all levels of education.

## Skills and Abilities

- Speaking
- Learning strategies
- Instructing
- Active listening
- Coordination
- Critical thinking
- Deductive reasoning
- Reading comprehension
- Oral expression
- Speech clarity
- Originality
- Oral comprehension
- Monitoring
- Complex problem solving
- Written comprehension
- Recognizing when problems arise

## *Select job descriptions*

**Teacher assistants** help teachers with instructional responsibilities. Although teacher assistants may deliver direct services to students or parents, they are in a position for which a teacher has ultimate responsibility for the design and implementation of educational programs and services.

The **education administrator of a preschool or childcare center** will oversee all the day-to-day work of that school. She will hire teachers, evaluate their performance, and provide teacher training. She will also manage the school's finances to make sure it stays within budget. Additionally, she will meet with parents, discipline students, and encourage her teachers.

**Child, family, and school social workers** help families, especially children, by figuring out what their problems are and what they need. They sometimes work with families who wish to adopt a child. And they sometimes work with families where children or teenagers are being mistreated. Sometimes they arrange foster care for these children. They also help students to stop skipping school and they work to prevent teenage pregnancy.

Also known as deans and university presidents, **administrators of colleges and universities** typically oversee one or more of the university's processes. Most such administrators oversee other university employees. They may be in charge of registering students or making sure the university maintains its academic standards or making sure students have a good college experience. They are likely to interact with students, teachers, and parents.

**Library technicians** assist librarians by helping readers use library resources to locate books and other materials. They also sort and shelf books, register new library members, and check books in and out.

Also known as a school principal or high school principal, the **education administrator for elementary and secondary schools** will oversee all the day-to-day work of the school where she works. She will hire teachers, evaluate their performance, and provide teacher training. She will craft policies that are conducive to learning and smooth school operations. She will also manage the school's money to make sure it stays within budget. Additionally, she will meet with parents, discipline students, and encourage her teachers.

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# Engineering

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Mechanical Engineers	2,118	99	\$41	\$84,830	Bachelor's degree
Industrial Engineers	1,405	38	\$35	\$73,110	Bachelor's degree
Civil Engineers	1,206	77	\$36	\$74,960	Bachelor's degree
Electrical Engineers	702	85	\$43	\$88,640	Bachelor's degree
Architectural and Engineering Managers	626	64	\$55	\$115,280	Bachelor's degree
Engineers, All Other	454	111	\$40	\$83,830	Bachelor's degree
Architects, Except Landscape and Naval	411	26	\$36	\$75,060	Bachelor's degree
Electronics Engineers, Except Computer	235	10	\$47	\$96,870	Bachelor's degree
Industrial Engineering Technicians	227	163	\$21	\$43,860	Associate's degree
Architectural and Civil Drafters	218	8	\$23	\$48,240	Associate's degree

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth		National Growth
Industrial Engineers	165	12%	9%
Mechanical Engineers	122	6%	8%
Electrical Engineers	46	7%	9%
Architectural and Engineering Managers	45	7%	7%
Architects, Except Landscape and Naval	31	8%	6%
Civil Engineers	27	2%	11%
Industrial Engineering Technicians	27	12%	2%
Electronics Engineers, Except Computer	24	10%	4%
Architectural and Civil Drafters	22	10%	9%
Engineers, All Other	20	4%	7%

Engineering occupations are projected to grow about as fast as the average for all occupations. Demand for these workers will stem from areas such as renewable energy, robotics, and rebuilding aging infrastructure.

## Skills and Abilities

- Active listening
- Critical thinking
- Complex problem solving
- Troubleshooting
- Coordination
- Social perceptiveness
- Writing
- Mathematics
- Science
- Reading comprehension
- Oral comprehension
- Written comprehension
- Information ordering
- Deductive reasoning
- Recognizing when problems arise
- Category flexibility
- Systems analysis
- Speaking
- Judgement and decision making
- Monitoring

## *Select job descriptions*

Many products, like cars, washing machines, and airplanes, are built by many people in plants or factories. **Industrial engineers** develop systems by which these people can work together efficiently and safely to make their product as quickly as possible without making mistakes. In general, it is the job of an industrial engineer to eliminate wasted time and wasted materials so that the company that makes the product can make money on it.

**Industrial engineering technicians** help industrial engineers to bring their plans to life. They attend to the details of how people and machines come together to create an effective work flow. They also analyze a business's costs to see how the company can save money.

**Mechanical engineers** invent machines, devices, and tools that are needed in communications and manufacturing. After designing a new tool on paper, the mechanical engineer develops a prototype, then tests it to make sure it works. He may redesign the tool several times before recommending it for mass production.

**Electrical engineers** work on electronic devices and systems like lasers, motors, light systems, and hydro-electric power stations. Their work may overlap, to some extent, with the work of electronics engineers and computer hardware engineers.

**Electronics engineers** specialize in electronic instruments, like cell phones, that could not run without chips and circuits. They develop, test, and tweak these phones as well as other smaller electronics like iPods, iPads, and GPS devices.

**Civil engineers** design municipal improvements that shape daily life. They sometimes design and oversee construction on flashy buildings like the Sydney opera house. They also work on much more mundane projects like sewers and drains. Civil engineers are basically the geniuses behind our modern infrastructure of roads, bridges, city water, and city electrical systems. When they are not developing something new, they are figuring out how to maintain things that have already been built, like dams and bridges.

Working on computers and using sophisticated software, **architectural and civil drafters** come up with drawings that assist in the construction of a new property or addition. They also create drawings that show how a building project will relate to nearby highways, bridges, and other infrastructure.

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# Healthcare

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Registered Nurses	15,143	1,560	\$30	\$62,020	Bachelor's degree
Personal Care Aides	5,886	172	\$12	\$24,130	High school diploma or equivalent
Licensed Practical and Licensed Vocational Nurses	3,485	308	\$21	\$44,190	Postsecondary nondegree award
Medical Assistants	2,913	252	\$15	\$31,900	Postsecondary nondegree award
Pharmacy Technicians	2,409	157	\$15	\$31,580	High school diploma or equivalent
Pharmacists	1,552	82	\$63	\$130,030	Doctoral or professional degree
Medical and Health Services Managers	1,521	454	\$37	\$77,570	Bachelor's degree
Home Health Aides	1,499	101	\$11	\$22,620	High school diploma or equivalent
Dental Assistants	1,471	52	\$18	\$37,040	Postsecondary nondegree award
Medical Records and Health Information Technicians	1,215	235	\$17	\$35,410	Postsecondary nondegree award
Physicians and Surgeons, All Other	1,151	173	\$89	\$185,990	Doctoral or professional degree
Nurse Practitioners	1,151	127	\$48	\$99,390	Master's degree
Physical Therapists	1,016	171	\$39	\$80,150	Doctoral or professional degree
Respiratory Therapists	838	45	\$24	\$49,640	Associate's degree
Dental Hygienists	811	18	\$31	\$63,950	Associate's degree
Physical Therapist Assistants	641	64	\$27	\$56,440	Associate's degree
Physician Assistants	385	21	\$46	\$95,130	Master's degree

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth		National Growth
Personal Care Aides	1,691	29%	35%
Registered Nurses	1,377	9%	14%
Home Health Aides	700	47%	42%
Medical Assistants	644	22%	26%
Pharmacy Technicians	354	15%	11%
Nurse Practitioners	268	23%	31%
Medical and Health Services Managers	245	16%	19%
Physical Therapists	184	18%	24%
Dental Assistants	175	12%	19%
Physicians and Surgeons, All Other	155	13%	14%
Pharmacists	153	10%	7%
Licensed Practical and Licensed Vocational Nurses	140	4%	13%
Respiratory Therapists	120	14%	20%
Physician Assistants	115	30%	32%
Physical Therapist Assistants	108	17%	28%
Dental Hygienists	106	13%	19%
Medical Records and Health Information Technicians	102	8%	14%

Healthcare occupations are projected to grow faster than any of the other occupational groups. Demand for these workers will stem from an aging population, leading to greater demand for healthcare services.

## *Skills and Abilities*

- Active listening
- Social perceptiveness
- Service orientation
- Speaking
- Coordination
- Critical thinking
- Active learning
- Monitoring
- Reading comprehension
- Oral comprehension
- Oral expression
- Written comprehension
- Deductive reasoning
- Recognizing when problems arise

## *Select job descriptions*

**Personal care aides** assist the elderly, persons recovering from an illness, or persons with disabilities with daily living activities at the person's home or in a care facility. Duties may include performing household chores and preparing meals, as well as providing advice on things such as nutrition, cleanliness, and household activities.

**Registered nurses (RN)** assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. RN's administer nursing care to ill, injured, recovering, or disabled patients. They may advise patients on health maintenance and disease prevention or provide case management. Licensing or registration is required.

**Medical assistants** perform administrative and some clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician.

**Pharmacy technicians** prepare medications under the direction of a pharmacist. They measure, mix, count out, label, and record amounts and dosages of medications according to prescription orders.

**Physical therapists** assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and improve or correct disabling conditions resulting from disease or injury.

**Respiratory therapists** assess, treat, and care for patients with breathing disorders. They assume primary responsibility for the approach to respiratory care, including the supervision of respiratory therapy technicians, initiating and conducting therapeutic procedures, maintaining patient records, and operating equipment.

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# Hospitality

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Combined Food Preparation and Serving Workers, Including Fast Food	20,199	379	\$9	\$18,680	No formal educational credential
Waiters and Waitresses	11,236	329	\$9	\$19,540	No formal educational credential
Cooks, Restaurant	7,668	430	\$11	\$23,410	No formal educational credential
First-Line Supervisors of Food Preparation and Serving Workers	4,543	269	\$14	\$30,050	High school diploma or equivalent
Food Preparation Workers	3,428	53	\$10	\$20,680	No formal educational credential
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	2,104	159	\$9	\$19,250	No formal educational credential
Amusement and Recreation Attendants	1,966	37	\$9	\$18,390	No formal educational credential
Dining Room and Cafeteria Attendants and Bartender Helpers	1,402	103	\$10	\$20,260	No formal educational credential
Food Service Managers	1,320	643	\$24	\$50,560	High school diploma or equivalent
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	955	39	\$10	\$21,140	No formal educational credential
Recreation Workers	877	62	\$15	\$31,590	High school diploma or equivalent
Chefs and Head Cooks	418	84	\$21	\$43,610	High school diploma or equivalent
Tour and Travel Guides	263	0	\$10	\$21,530	High school diploma or equivalent
Baggage Porters and Bellhops	97	7	\$9	\$19,210	High school diploma or equivalent
Concierges	67	39	\$11	\$22,830	High school diploma or equivalent

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth		National Growth
Combined Food Preparation and Serving Workers, Including Fast Food	1,423	7%	16%
Cooks, Restaurant	296	4%	12%
First-Line Supervisors of Food Preparation and Serving Workers	100	2%	10%
Waiters and Waitresses	82	1%	8%
Amusement and Recreation Attendants	62	3%	10%
Recreation Workers	43	5%	10%
Food Preparation Workers	21	1%	9%
Food Service Managers	19	1%	11%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	19	2%	7%
Dining Room and Cafeteria Attendants and Bartender Helpers	17	1%	9%
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	15	1%	8%
Tour and Travel Guides	15	6%	11%
Baggage Porters and Bellhops	9	9%	9%
Concierges	7	10%	13%
Chefs and Head Cooks	5	1%	11%

Hospitality occupations are projected to grow about as fast as the average for all occupations. Demand for these workers will stem from population and income growth, which in turn will drive greater consumer demand for hospitality services.

## *Skills and Abilities*

- Active listening
- Service orientation
- Speaking
- Coordination
- Monitoring
- Critical thinking
- Social perceptiveness
- Oral expression
- Oral comprehension
- Deductive reasoning
- Recognizing when problems arise
- Information ordering

## *Select job descriptions*

**Food preparation workers** perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea. Job titles include deli clerks and pantry cooks.

**Recreation workers** conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. They organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individual members.

**Food service managers** often work in schools and hospitals or other institutions that require meals be served every day to a multitude of people. Food service managers must often ensure compliance with nutrition requirements of children or other special segments of population while also making sure that kitchens remain hygienic. They write menus, arrange food purchases and deliveries, and oversee the work of cafeteria or kitchen workers.

**Counter attendants at cafeterias, food concessions, and coffee shops** are also referred to as cafe servers, cafeteria workers, sandwich artists, and baristas.

**Dining room and cafeteria attendants and bartender helpers** facilitate food service by cleaning tables, removing dirty dishes, changing linens, setting tables, and serving items such as water, condiments, and coffee to patrons. They are also referred to as bar backs, bus boys, and server assistants.

**Concierges** assist patrons at hotel, apartment, or office building with personal services. They may take messages, arrange or give advice on transportation, business services or entertainment, or monitor guest requests for housekeeping and maintenance.

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# Information Technology

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Software Developers, Applications	3,113	586	\$37	\$77,330	Bachelor's degree
Computer User Support Specialists	2,646	311	\$20	\$42,380	Some college, no degree
Computer Systems Analysts	2,138	157	\$33	\$69,260	Bachelor's degree
Computer Occupations, All Other	1,307	617	\$40	\$83,360	Bachelor's degree
Computer and Information Systems Managers	1,302	21	\$58	\$121,560	Bachelor's degree
Network and Computer Systems Administrators	1,278	148	\$32	\$67,140	Bachelor's degree
Software Developers, Systems Software	840	10	\$41	\$84,810	Bachelor's degree
Computer Network Support Specialists	730	37	\$26	\$54,680	Associate's degree
Operations Research Analysts	661	69	\$35	\$72,760	Bachelor's degree
Web Developers	652	128	\$30	\$62,460	Associate's degree
Computer Network Architects	604	68	\$40	\$82,370	Bachelor's degree
Database Administrators	525	86	\$38	\$78,620	Bachelor's degree
Information Security Analysts	390	67	\$39	\$80,380	Bachelor's degree
Computer and Information Research Scientists	85	19	\$50	\$103,990	Master's degree

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth		National Growth
Software Developers, Applications	614	20%	26%
Computer User Support Specialists	167	6%	12%
Computer Systems Analysts	160	7%	10%
Operations Research Analysts	137	21%	23%
Computer and Information Systems Managers	115	9%	12%
Software Developers, Systems Software	99	12%	11%
Information Security Analysts	83	21%	24%
Network and Computer Systems Administrators	73	6%	8%
Computer Occupations, All Other	71	5%	10%
Web Developers	47	7%	14%
Computer Network Support Specialists	41	6%	9%
Database Administrators	36	7%	11%
Computer Network Architects	35	6%	8%
Computer and Information Research Scientists	6	7%	17%

IT occupations are projected to grow faster than the average for all occupations. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security.

## Skills and Abilities

- Active listening
- Reading comprehension
- Speaking
- Complex problem solving
- Critical thinking
- Judgment and decision making
- Systems analysis
- Mathematics
- Communication
- Programming
- Oral Comprehension
- Oral Expression
- Written Comprehension
- Information Ordering
- Deductive reasoning
- Recognizing when problems arise

## *Select job descriptions*

Many of us use apps which make our lives easier, more fun, or more comprehensible. The people who create these apps are **software developers specializing in applications**. On a day to day basis, these developers write code and test it, sometimes trying it out on a set of new users.

**Computer user support specialists** usually help people operate the computers they already own. They frequently take phone calls from people who do not know how to install something or how to fix a problem with their computers. That means that these specialists are frequently trouble shooting on a computer they cannot see. They must, therefore, be extremely patient and visualize the problem so that they can guide the user.

Most people like apps and computer programs that are easy to use. **Computer systems analysts** are the people who improve those programs and apps so that they are more user friendly. They are able to automate some of the work that software programs do to make using that software a better experience. These analysts may work with a business to find hardware and software that makes the business run more smoothly and efficiently.

**Operations research analysts** take mathematics and apply it to various problems and systems in industry. For instance, they use math and analysis to figure out how to cut costs, reduce the number of workers needed, and increase profits. They do this by digging deep for information and then by analyzing the information they find.

Underlying most computers or smart devices is a platform from which all the other programs and applications run. This is often called "systems software" because it runs the system. **Software developers who develop systems software** generally work in offices though some of them may work at home.

No business wants to get hacked. Most businesses store information that they do not want to share with others. For instance, if they are designing a new product, they do not want the competition to learn about it. **Information security analysts** protect information that businesses store on computers or in the cloud. They respond quickly to security breaches and create and maintain firewalls.

**Network and computer systems administrators** keep a company's email and internet usage up and running. Many companies run on one server. That means that, if the server quits working, no one in that company will have internet or email. That can really cost a company a lot of time and money. The job of the network and computer systems administrator is to get the server working again. These administrators also routinely review and recommend upgrades to computer hardware and software.

For additional information on jobs in the Louisville region visit <http://careercalculator.org>.

For questions or feedback about this report email [sarah.ehresman@kentuckianaworks.org](mailto:sarah.ehresman@kentuckianaworks.org).

# Manufacturing and Machine Maintenance

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Maintenance and Repair Workers, General	6,617	543	\$19	\$40,210	High school diploma or equivalent
First-Line Supervisors of Production and Operating Workers	3,637	172	\$27	\$55,890	High school diploma or equivalent
Helpers--Production Workers	2,695	59	\$12	\$25,810	High school diploma or equivalent
Welders, Cutters, Solderers, and Brazers	2,432	90	\$18	\$36,510	High school diploma or equivalent
First-Line Supervisors of Mechanics, Installers, and Repairers	2,377	126	\$31	\$63,620	High school diploma or equivalent
Industrial Machinery Mechanics	2,038	53	\$24	\$48,990	High school diploma or equivalent
Machinists	1,854	44	\$20	\$40,620	High school diploma or equivalent
Production Workers, All Other	1,797	352	\$11	\$22,810	High school diploma or equivalent
Heating, Air Conditioning, and Refrigeration	1,490	133	\$22	\$45,770	Postsecondary nondegree award
Bus and Truck Mechanics and Diesel Engine Specialists	1,400	112	\$21	\$43,180	High school diploma or equivalent
Industrial Production Managers	1,038	105	\$43	\$90,250	Bachelor's degree
Computer-Controlled Machine Tool Operators, Metal and Plastic	821	35	\$18	\$37,240	High school diploma or equivalent
Aircraft Mechanics and Service Technicians	565	13	\$40	\$84,130	Postsecondary nondegree award
Maintenance Workers, Machinery	350	0	\$22	\$46,610	High school diploma or equivalent

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth		National Growth
Helpers--Production Workers	222	8%	11%
Maintenance and Repair Workers, General	211	3%	9%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	129	9%	15%
Industrial Machinery Mechanics	103	5%	7%
First-Line Supervisors of Production and Operating Workers	81	2%	2%
Welders, Cutters, Solderers, and Brazers	73	3%	6%
Machinists	64	3%	3%
Bus and Truck Mechanics and Diesel Engine Specialists	40	3%	9%
Production Workers, All Other	39	2%	5%
First-Line Supervisors of Mechanics, Installers, and Repairers	35	1%	8%
Maintenance Workers, Machinery	31	9%	6%
Computer-Controlled Machine Tool Operators, Metal and Plastic	31	4%	2%
Industrial Production Managers	20	2%	1%
Aircraft Mechanics and Service Technicians	20	4%	5%

Technological advancements are expected to negatively impact future job growth in the manufacturing sector. As more processes become computer-controlled, additional machine maintenance workers will be needed.

## *Skills and Abilities*

- Critical thinking
- Troubleshooting
- Monitoring
- Active listening
- Speaking
- Coordination
- Quality control analysis
- Oral expression
- Reading comprehension
- Oral comprehension
- Written comprehension
- Deductive reasoning
- Information ordering
- Recognizing when problems arise

## *Select job descriptions*

**Production worker helpers** perform less-skilled duties to assist production workers, including supplying or holding materials or tools, and cleaning work area and equipment.

**General maintenance and repair workers** perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.

**Industrial machinery mechanics** repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.

**Machinists** set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.

**Machinery maintenance workers** perform duties such as lubricating machinery, changing parts, and performing other routine maintenance.

**Tool operators specializing in computer-controlled machines** operate computer-controlled machines or robots that perform one or more machine functions on metal or plastic work pieces.

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# Media and Arts

## Current Economic Picture in the Louisville Region

Career	Number of Jobs in 2018	Number of Job Postings in the last 90 days	Median Earnings		Typical Entry Level Education
			Hourly	Annually	
Public Relations Specialists	1,056	45	\$23	\$47,360	Bachelor's degree
Graphic Designers	758	61	\$21	\$43,500	Bachelor's degree
Producers and Directors	288	8	\$28	\$58,260	Bachelor's degree
Music Directors and Composers	284	0	\$24	\$49,660	Bachelor's degree
Public Relations and Fundraising Managers	261	78	\$40	\$83,870	Bachelor's degree
Commercial and Industrial Designers	230	18	\$33	\$68,750	Bachelor's degree
Writers and Authors	183	23	\$25	\$51,000	Bachelor's degree
Audio and Video Equipment Technicians	156	12	\$18	\$37,710	Postsecondary nondegree award
Technical Writers	141	23	\$27	\$56,540	Bachelor's degree
Actors	128	0	\$14	\$30,070	Some college, no degree
Art Directors	113	14	\$38	\$79,330	Bachelor's degree
Interpreters and Translators	112	27	\$20	\$41,300	Bachelor's degree

## Occupational Outlook

Career	Projected Job Growth in the Next 10 Years		
	Louisville Growth		National Growth
Public Relations Specialists	31	3%	10%
Music Directors and Composers	25	9%	9%
Public Relations and Fundraising Managers	20	8%	11%
Technical Writers	18	13%	11%
Audio and Video Equipment Technicians	17	11%	13%
Interpreters and Translators	10	9%	18%
Producers and Directors	8	3%	13%
Actors	8	6%	13%
Commercial and Industrial Designers	4	2%	4%
Art Directors	3	3%	8%
Graphic Designers	2	0%	6%
Writers and Authors	2	1%	10%

Demand for media and arts workers will stem from the need to create, edit, translate, and disseminate information through a variety of media outlets. There is also a growing demand to create visually appealing and effective layouts of websites and other media platforms.

## Skills and Abilities

- Critical thinking
- Social perceptiveness
- Coordination
- Active listening
- Speaking
- Time management
- Active learning
- Creativity
- Oral expression
- Reading comprehension
- Oral comprehension
- Written comprehension
- Writing
- Memorization
- Deductive reasoning

## *Select job descriptions*

**Public relations specialists** engage in promoting or creating an intended public image for individuals, groups, or organizations. They may write or select material for release to various media outlets.

**Music directors and composers** conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, bands, choirs, and glee clubs.

**Public relations and fundraising managers** plan, direct, and coordinate activities designed to promote or create a favorable public image or raise awareness around an issue. They also coordinate activities to solicit and maintain funds for special projects or nonprofit organizations.

**Technical writers** write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. They may also assist in layout work.

**Audio and video equipment technicians** set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. They may also set up and operate spotlights and other custom lighting systems.

**Interpreters and translators** interpret oral or sign language, or translate written text from one language into another.

**Producers and directors** are responsible for creative decisions, such as interpretation of script, choice of actors or guests, set design, sound, special effects, and choreography for stage, television, radio, video, or motion picture productions for entertainment, informational, or instructional purposes.

**Commercial and industrial designers** develop and design manufactured products, such as cars, home appliances, and children's toys. They combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.

**Art directors** formulate design concepts and presentation approaches for visual communications media, such as print, broadcasting, and advertising. They also direct workers engaged in art work or layout design.

**Graphic designers** create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. They may use a variety of mediums to achieve artistic or decorative effects.

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