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Computer and Information Systems...

Louisiana

Summary of Job Duties

Computer and Information Systems Managers [Video](#) - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Detailed Job Description

Computer and Information Systems Managers Computer and information systems managers plan, coordinate, and direct computer-related activities in an organization.

Source: [U.S. Department of Labor Bureau of Labor Statistics](#)

Job Zone

The section below shows the job zone information for Computer and Information Systems Managers. Job Zone Four: Considerable Preparation Needed.

Education

Most of these occupations require a four-year bachelor's degree, but some do not.

Experience

A considerable amount of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.



Training

Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Jobs Available

This section shows the number of job openings and green jobs advertised online in Louisiana for Computer and Information Systems Managers and for the related occupational group of Management Occupations on December 8, 2020 (Jobs De-duplication Level 2).

Occupation	Job Openings	Green Job Count
Computer and Information Systems Managers  	<u>12</u>	<u>1</u>
Management Occupations	<u>3,507</u>	<u>93</u>

 BRIGHT OUTLOOK NATIONALLY |  GREEN OCCUPATIONS

Source: Online advertised jobs data

Monthly Job Count

This section shows the number of job openings and green jobs advertised online for Computer and Information Systems Managers in Louisiana November, 2020 (Jobs De-duplication Level 2).

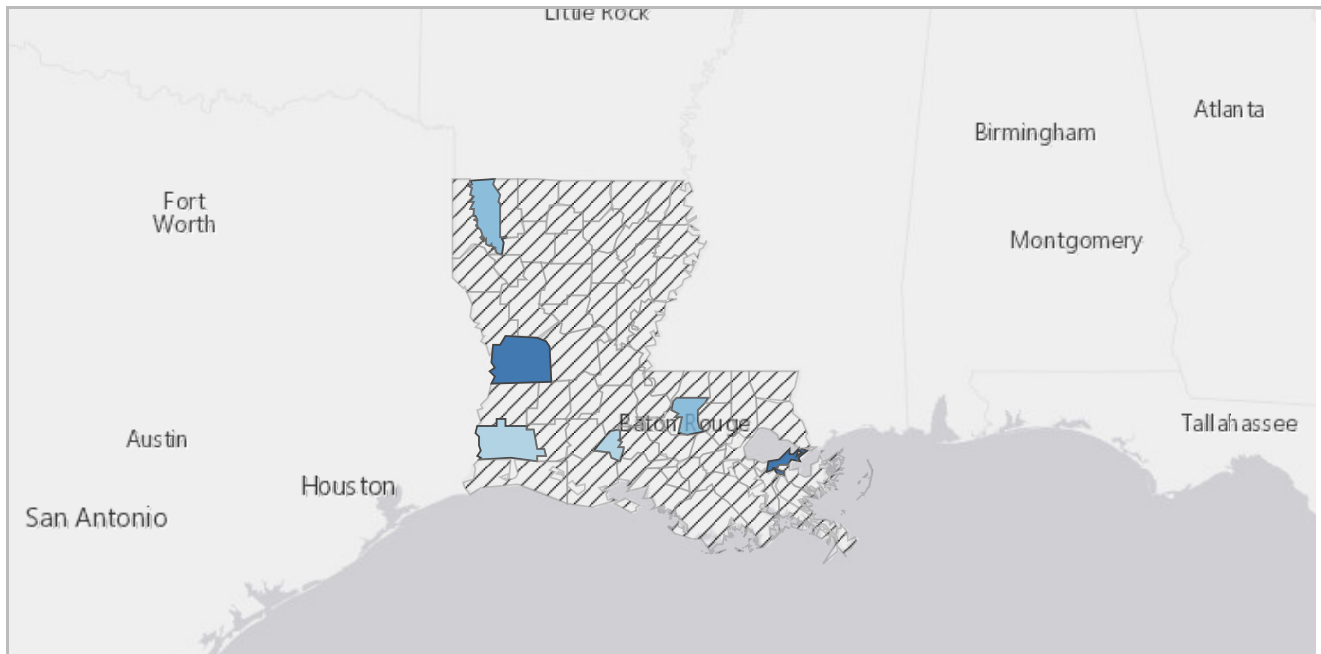
Occupation	Job Openings	Green Job Count
Computer and Information Systems Managers 	27	1

 BRIGHT OUTLOOK NATIONALLY

Source: Online advertised jobs data

Jobs Area Distribution

This section shows the distribution of number of job openings and green jobs advertised online for Computer and Information Systems Managers in Louisiana by parishes on December 8, 2020 (Jobs De-duplication Level 2).



Job Openings



Job Source: Online advertised jobs data

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

Jobs in Related Occupations

This section shows the number of job openings and green jobs advertised online in Louisiana for occupations related to Computer and Information Systems Managers on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Occupation	Median Wage	Job Openings	Green Job Count	*Related By
1	Architectural and Engineering Managers	\$150,181	<u>34</u>	<u>7</u>	O*NET
2	Transportation Managers	\$78,879	<u>16</u>	<u>4</u>	SOC4
3	Industrial Engineers	\$89,763	<u>8</u>	<u>4</u>	O*NET
4	Financial Managers, Branch or Department	\$94,850	<u>83</u>	<u>3</u>	SOC4
5	Computer Systems Engineers/Architects	N/A	<u>51</u>	<u>3</u>	O*NET
6	Administrative Services Managers	N/A	<u>39</u>	<u>2</u>	SOC4
7	Natural Sciences Managers	\$100,862	<u>3</u>	<u>2</u>	O*NET

Rank	Occupation	Median Wage	Job Openings	Green Job Count	*Related By
8	<u>Compensation, Benefits, and Job Analysis Specialists</u>	\$47,273	<u>13</u>	<u>2</u>	O*NET
9	Computer and Information Systems Managers 🌟	\$104,043	<u>12</u>	1	N/A
10	<u>Treasurers and Controllers</u> 🌟	\$94,850	<u>25</u>	1	SOC4
11	<u>Logistics Managers</u> 🌿	\$78,879	<u>4</u>	1	O*NET
12	<u>Logistics Engineers</u> 🌿	\$68,700	<u>2</u>	1	O*NET
13	<u>Risk Management Specialists</u> 🌿	N/A	<u>2</u>	1	O*NET
14	<u>Computer Systems Analysts</u> 🌟	N/A	<u>75</u>	1	O*NET
15	<u>Financial Managers</u> 🌟	\$94,850	<u>3</u>	0	SOC4
16	<u>Industrial Production Managers</u> 🌿	\$112,096	<u>2</u>	0	SOC4
17	<u>Quality Control Systems Managers</u>	\$112,096	<u>3</u>	0	SOC4
18	<u>Biofuels Production Managers</u> 🌿	\$112,096	<u>1</u>	0	SOC4
19	<u>Purchasing Managers</u>	\$87,861	<u>6</u>	0	SOC4
20	<u>Storage and Distribution Managers</u> 🌿	\$78,879	<u>22</u>	0	SOC4
21	<u>Purchasing Agents, Except Wholesale, Retail, and Farm Products</u>	N/A	<u>6</u>	0	O*NET
22	<u>Claims Examiners, Property and Casualty Insurance</u>	\$69,388	<u>11</u>	0	O*NET
23	<u>Logistics Analysts</u> 🌿	\$68,700	<u>6</u>	0	O*NET
24	<u>Informatics Nurse Specialists</u> 🌟	N/A	<u>3</u>	0	O*NET
25	<u>Information Security Analysts</u> 🌟	N/A	<u>7</u>	0	O*NET
26	<u>Software Developers, Systems Software</u> 🌟 🌿	N/A	<u>20</u>	0	O*NET
27	<u>Computer Network Architects</u>	N/A	<u>6</u>	0	O*NET
28	<u>Technical Directors/Managers</u>	\$57,813	<u>21</u>	0	O*NET
29	<u>Sales Engineers</u>	\$82,467	<u>2</u>	0	O*NET

🌟 BRIGHT OUTLOOK NATIONALLY | 🌿 GREEN OCCUPATIONS

Job Source: Online advertised jobs data

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

SOC4 - Occupational grouping based on 1st 4 digits of the Standard Occupational Classification system.

Candidates Available

This section shows potential candidates in the workforce system in Louisiana for Computer and Information Systems Managers and for the related occupational group of Management Occupations on December 8, 2020.

Occupation	Candidates
Computer and Information Systems Managers🌟🌿	288
Management Occupations	14,391

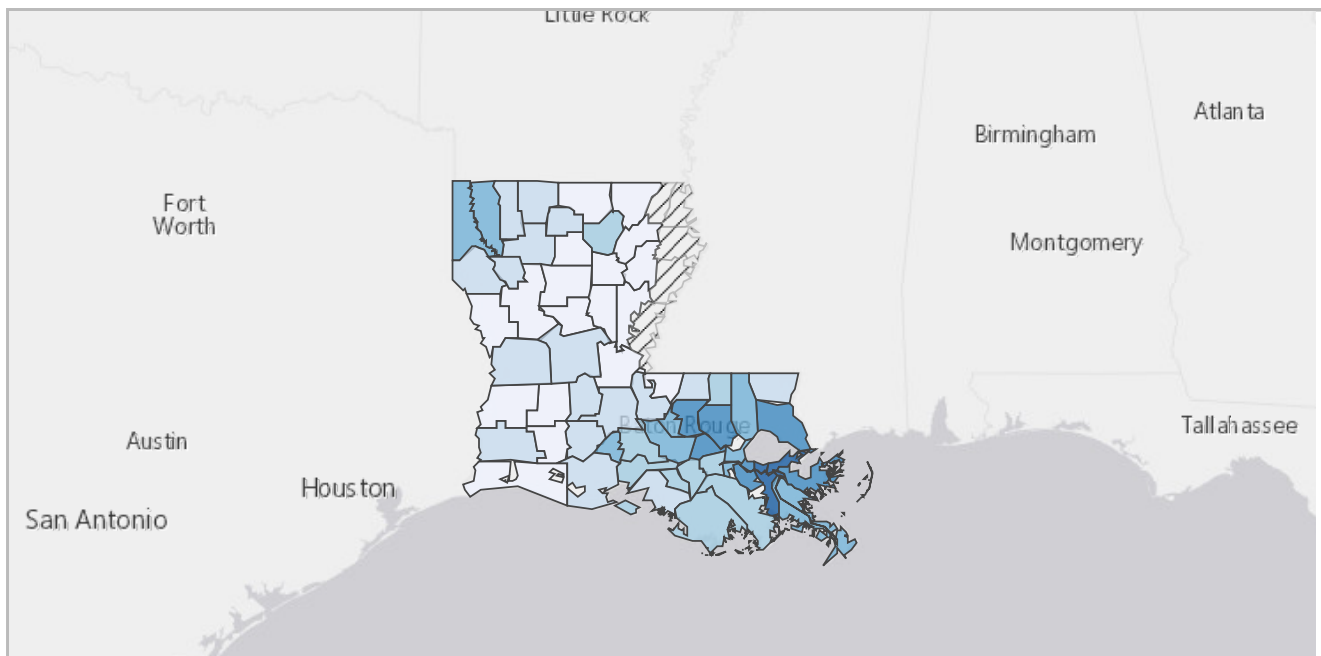
🌟 BRIGHT OUTLOOK NATIONALLY | 🌿 GREEN OCCUPATIONS

Source: Individuals with active résumés in the workforce system.

Candidate Area Distribution

This section shows the distribution of potential candidates in the workforce system for Computer and Information Systems Managers in Louisiana by parishes on December 8, 2020.

Rank	Area Name	Median Wage	Candidates
1	<u>Orleans Parish</u>	\$104,043 state level wages	163
2	<u>Jefferson Parish</u>	\$104,043 state level wages	155
3	<u>East Baton Rouge Parish</u>	\$104,043 state level wages	128
4	<u>Livingston Parish</u>	\$104,043 state level wages	124
5	<u>St. Charles Parish</u>	\$104,043 state level wages	124
6	<u>Ascension Parish</u>	\$104,043 state level wages	122
7	<u>St. Bernard Parish</u>	\$104,043 state level wages	120
8	<u>St. Tammany Parish</u>	\$104,043 state level wages	120
9	<u>Tangipahoa Parish</u>	\$104,043 state level wages	113
10	<u>Lafayette Parish</u>	\$104,043 state level wages	112



Candidates



Candidate Source: Individuals with active résumés in the workforce system.

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

Candidates in Related Occupations

This section shows how many potential candidates in the workforce system were looking for work in Louisiana in occupations related to Computer and Information Systems Managers on December 8, 2020.

Rank	Occupation	Median Wage	Candidates	*Related By
1	Administrative Services Managers ♦	N/A	3,598	SOC4
2	Financial Managers, Branch or Department ♦	\$94,850	316	SOC4
3	Computer and Information Systems Managers ♦	\$104,043	288	N/A
4	Purchasing Agents, Except Wholesale, Retail, and Farm Products	N/A	141	O*NET
5	Computer Systems Analysts ♦	N/A	139	O*NET
6	Purchasing Managers	\$87,861	138	SOC4
7	Logistics Managers ♣	\$78,879	131	O*NET
8	Storage and Distribution Managers ♣	\$78,879	120	SOC4
9	Architectural and Engineering Managers ♣	\$150,181	104	O*NET

Rank	Occupation	Median Wage	Candidates	*Related By
10	<u>Claims Examiners, Property and Casualty Insurance</u>	\$69,388	103	O*NET
11	<u>Industrial Production Managers</u> 🌱	\$112,096	101	SOC4
12	<u>Quality Control Systems Managers</u>	\$112,096	81	SOC4
13	<u>Transportation Managers</u> 🌱	\$78,879	74	SOC4
14	<u>Compensation, Benefits, and Job Analysis Specialists</u>	\$47,273	65	O*NET
15	<u>Logistics Analysts</u> 🌱	\$68,700	57	O*NET
16	<u>Industrial Engineers</u> 🌟 🌱	\$89,763	55	O*NET
17	<u>Treasurers and Controllers</u> 🌟	\$94,850	44	SOC4
18	<u>Computer Network Architects</u>	N/A	42	O*NET
19	<u>Information Security Analysts</u> 🌟	N/A	37	O*NET
20	<u>Technical Directors/Managers</u>	\$57,813	33	O*NET
21	<u>Software Developers, Systems Software</u> 🌟 🌱	N/A	32	O*NET
22	<u>Risk Management Specialists</u> 🌱	N/A	27	O*NET
23	<u>Biofuels Production Managers</u> 🌱	\$112,096	26	SOC4
24	<u>Sales Engineers</u>	\$82,467	24	O*NET
25	<u>Fraud Examiners, Investigators and Analysts</u>	N/A	16	O*NET
26	<u>Computer Systems Engineers/Architects</u> 🌟	N/A	16	O*NET
27	<u>Biomass Power Plant Managers</u> 🌱	\$112,096	6	SOC4
28	<u>Transportation, Storage, and Distribution Managers</u>	\$78,879	5	SOC4
29	<u>Natural Sciences Managers</u> 🌱	\$100,862	4	O*NET
30	<u>Informatics Nurse Specialists</u> 🌟	N/A	4	O*NET
31	<u>Web Administrators</u> 🌟	N/A	3	O*NET
32	<u>Logistics Engineers</u> 🌱	\$68,700	2	O*NET
33	<u>Financial Managers</u> 🌟	\$94,850	1	SOC4
34	<u>Geothermal Production Managers</u> 🌱	\$112,096	1	SOC4
35	<u>Methane/Landfill Gas Collection System Operators</u> 🌱	\$112,096	1	SOC4

🌟 BRIGHT OUTLOOK NATIONALLY | 🌱 GREEN OCCUPATIONS

Candidate Source: Individuals with active résumés in the workforce system.

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

SOC4 - Occupational grouping based on 1st 4 digits of the Standard Occupational Classification system.

Jobs and Candidates Available

This section shows the number of job openings and green jobs advertised online, as well as potential candidates in the workforce system in Louisiana for Computer and Information Systems Managers and for the related occupational group of Management Occupations on December 8, 2020 (Jobs De-duplication Level 2).

Occupation	Job Openings	Green Job Count	Candidates	Candidates per Job
Computer and Information Systems Managers 🌟🌿	<u>12</u>	<u>1</u>	288	24.00
Management Occupations	<u>3,507</u>	<u>93</u>	14,391	4.10

🌟 BRIGHT OUTLOOK NATIONALLY | 🌿 GREEN OCCUPATIONS

Job Source: Online advertised jobs data

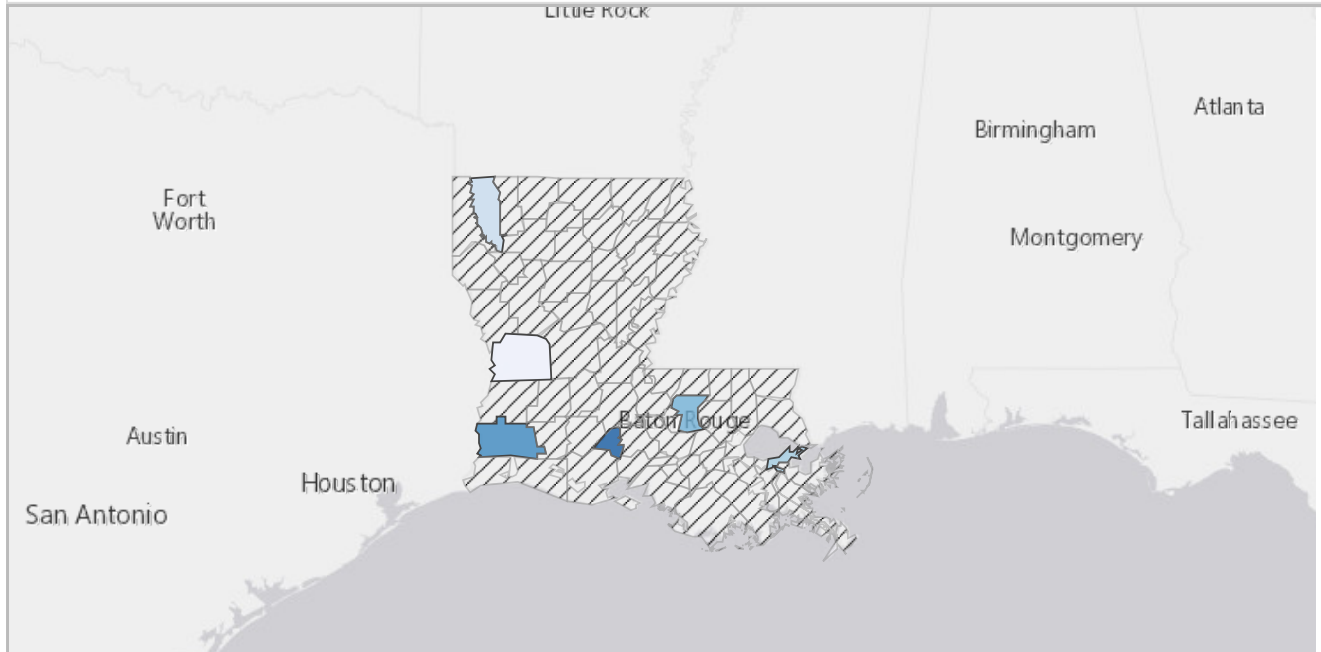
Candidate Source: Individuals with active résumés in the workforce system.

Jobs and Candidates Area Distribution

This section shows the distribution of number of job openings and green jobs advertised online, as well as potential candidates in the workforce system for Computer and Information Systems Managers in Louisiana by parishes on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Area Name	Median Wage	Job Openings	Green Job Count	Candidates	Candidates per Job
1	<u>Lafayette Parish</u>	\$104,043 state level wages	<u>1</u>	0	112	112.00
2	<u>Calcasieu Parish</u>	\$104,043 state level wages	<u>1</u>	0	94	94.00
3	<u>East Baton Rouge Parish</u>	\$104,043 state level wages	<u>2</u>	0	128	64.00
4	<u>Orleans Parish</u>	\$104,043 state level wages	<u>3</u>	<u>1</u>	163	54.33
5	<u>Bossier Parish</u>	\$104,043 state level wages	<u>2</u>	0	107	53.50
6	<u>Vernon Parish</u>	\$104,043 state level wages	<u>3</u>	0	93	31.00
7	<u>Acadia Parish</u>	\$104,043 state level wages	0	0	95	N/A
8	<u>Allen Parish</u>	\$104,043 state level wages	0	0	92	N/A

Rank	Area Name	Median Wage	Job Openings	Green Job Count	Candidates	Candidates per Job
9	Ascension Parish	\$104,043 state level wages	0	0	122	N/A
10	Assumption Parish	\$104,043 state level wages	0	0	102	N/A



Candidates per Job



Job Source: Online advertised jobs data

Candidate Source: Individuals with active résumés in the workforce system.

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

National Supply and Demand Summary

Computer and Information Systems Managers

Employment of computer and information systems managers is projected to grow 10 percent from 2019 to 2029, much faster than the average for all occupations.

Demand for computer and information systems managers will grow as firms increasingly expand their operations to digital platforms. Computer and information systems managers will be responsible for implementing these goals.

Employment growth will result from the need to bolster cybersecurity in computer and information systems used

by businesses. Industries such as retail trade will need to implement more robust security policies as cyber threats increase.

An increase in the popularity of cloud computing may result in firms outsourcing services from in-house IT departments to cloud-computing companies. This will shift IT services from IT departments in noncomputer industries, such as financial firms or schools, to firms engaged in computer systems design and related services and those in data processing, hosting, and related services.

Source: U.S. Department of Labor Bureau of Labor Statistics

Employers by Number of Job Openings

This section shows the employers with the highest number of job openings and green jobs advertised online for Computer and Information Systems Managers in Louisiana on December 8, 2020 (Jobs De-duplication Level 2).

Rank	Employer Name	Job Openings	Green Job Count
1	General Dynamics Information Technology, Inc.	<u>2</u>	0
2	Pizza Hut - APP/HOT	<u>2</u>	0
3	Capstone Corporation	<u>1</u>	0
4	Entercom Communications Corporation	<u>1</u>	<u>1</u>
5	Loyola University New Orleans	<u>1</u>	0
6	MOTOROLA INC	<u>1</u>	0
7	Shogun	<u>1</u>	0
8	SOWELA Technical Community College	<u>1</u>	0
9	SPARKHOUND LLC	<u>1</u>	0

Source: Online advertised jobs data

Advertised Job Skills

This section shows the top advertised detailed job skills found in job openings advertised online for Computer and Information Systems Managers in Louisiana in November, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Detailed Job Skill	Advertised Skill Group	Job Opening Match Count
1	Problem solving	Basic Skills	<u>13</u>
2	Vulnerability management	Information Systems Security Skills	<u>10</u>
3	Provide leadership	Interpersonal Skills	<u>8</u>
4	Strategic planning	Chief Financial Officer Skills	<u>7</u>
5	Revenue growth	Account Manager Skills	<u>7</u>
6	Customer service	Customer Service Skills	<u>6</u>
7	Conflict management	Interpersonal Skills	<u>3</u>
8	Capacity planning	Database Administrator Skills	<u>3</u>
9	Analyze results	Laboratory Technician Skills	<u>2</u>

Rank	Advertised Detailed Job Skill	Advertised Skill Group	Job Opening Match Count
10	Communicate project expectations	Project Manager Skills	<u>2</u>

Source: Online advertised jobs data

Advertised Tools and Technology

This section shows the top advertised detailed tools and technologies found in job openings advertised online for Computer and Information Systems Managers in Louisiana in November, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Detailed Tool or Technology	Advertised Tool and Technology Group	Job Opening Match Count
1	VMWare	Configuration Management Software	<u>4</u>
2	Microsoft (MS) Office	Office Suite Software	<u>4</u>
3	Microsoft Windows Server	Application Server Software	<u>3</u>
4	Windows Server	Computer Servers	<u>3</u>
5	Microsoft Windows	Operating System Software	<u>3</u>
6	Workstations	High End Computer Servers	<u>2</u>
7	Linux software	Operating System Software	<u>2</u>
8	Motor vehicles	Automobiles or Cars	<u>2</u>
9	MongoDB	Database Management System Software	<u>1</u>
10	Programming languages	Development Environment Software	<u>1</u>

Source: Online advertised jobs data

Typical Job Skills

This section shows the job skills that are related to Computer and Information Systems Managers.

Rank	Typical Job Skills	Typical Skill Category
1	Develop computer or information systems	Mental Processes
2	Develop organizational goals or objectives	Mental Processes
3	Analyze data to inform operational decisions or activities	Mental Processes
4	Direct organizational operations, projects, or services	Interacting With Others
5	Coordinate operational activities with external stakeholders	Interacting With Others
6	Confer with organizational members to accomplish work activities	Interacting With Others
7	Resolve employee or contractor problems	Interacting With Others
8	Manage operations, research, or logistics projects	Interacting With Others
9	Evaluate employee performance	Mental Processes

Rank	Typical Job Skills	Typical Skill Category
10	Advise customers on technical or procedural issues	Interacting With Others
11	Maintain knowledge of current developments in area of expertise	Mental Processes
12	Conduct employee training programs	Interacting With Others
13	Hire personnel	Interacting With Others
14	Recruit personnel	Interacting With Others
15	Determine resource needs	Mental Processes
16	Recommend organizational process or policy changes	Interacting With Others
17	Develop operating strategies, plans, or procedures	Mental Processes
18	Develop organizational policies or programs	Mental Processes
19	Prepare operational progress or status reports	Work Output
20	Analyze data to determine project feasibility	Mental Processes
21	Manage organizational or project budgets	Interacting With Others
22	Purchase materials, equipment, or other resources	Interacting With Others

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Personal Skills

This section shows the personal skills that are most useful for Computer and Information Systems Managers. Click on a link in the Personal Skills column to view more detailed information.

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	78
Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	75
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	75
Speaking	Talking to others to convey information effectively.	72
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	72
Judgment and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	72
Coordination	Adjusting actions in relation to others' actions.	69

Personal Skill	Skill Description	Rank by Importance (Out of 100)
<u>Complex Problem Solving</u>	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	69
<u>Writing</u>	Communicating effectively in writing as appropriate for the needs of the audience.	69
<u>Social Perceptiveness</u>	Being aware of others' reactions and understanding why they react as they do.	66
<u>Systems Evaluation</u>	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	66
<u>Systems Analysis</u>	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	66
<u>Management of Personnel Resources</u>	Motivating, developing, and directing people as they work, identifying the best people for the job.	66
<u>Time Management</u>	Managing one's own time and the time of others.	60
<u>Active Learning</u>	Understanding the implications of new information for both current and future problem-solving and decision-making.	60
<u>Learning Strategies</u>	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	56
<u>Instructing</u>	Teaching others how to do something.	53
<u>Persuasion</u>	Persuading others to change their minds or behavior.	53
<u>Operations Analysis</u>	Analyzing needs and product requirements to create a design.	53
<u>Mathematics</u>	Using mathematics to solve problems.	53
<u>Management of Financial Resources</u>	Determining how money will be spent to get the work done, and accounting for these expenditures.	50
<u>Negotiation</u>	Bringing others together and trying to reconcile differences.	50
<u>Service Orientation</u>	Actively looking for ways to help people.	47
<u>Operation Monitoring</u>	Watching gauges, dials, or other indicators to make sure a machine is working properly.	47
<u>Programming</u>	Writing computer programs for various purposes.	44
<u>Management of Material Resources</u>	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	44

Personal Skill	Skill Description	Rank by Importance (Out of 100)
<u>Quality Control Analysis</u>	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	44
<u>Troubleshooting</u>	Determining causes of operating errors and deciding what to do about it.	38
<u>Technology Design</u>	Generating or adapting equipment and technology to serve user needs.	38
<u>Operation and Control</u>	Controlling operations of equipment or systems.	25
<u>Equipment Selection</u>	Determining the kind of tools and equipment needed to do a job.	22
<u>Science</u>	Using scientific rules and methods to solve problems.	19
<u>Repairing</u>	Repairing machines or systems using the needed tools.	13
<u>Equipment Maintenance</u>	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	10
<u>Installation</u>	Installing equipment, machines, wiring, or programs to meet specifications.	0

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Education Requirements

Computer and Information Systems Managers Computer and Information Systems Managers usually require at least a Bachelor's degree. However, not all employers may make this a hiring requirement.

Source: This information is based on the BLS Occupational Outlook Handbook (OOH).

Required Level of Education

This section shows the results of a national survey listing the most common required level of education for Computer and Information Systems Managers.

Rank	Required Level of Education	Percentage of Respondents
1	Bachelor's Degree	47.68%
2	Some College Courses	25.96%
3	Master's Degree	14.36%
4	Post-Secondary Certificate - awarded for training completed after high school (for example, in agriculture or natural resources, computer services, personal or culinary services, engineering technologies, healthcare, construction trades, mechanic and repair technologies, or precision production)	5.77%

Rank	Required Level of Education	Percentage of Respondents
5	Post-Baccalaureate Certificate - awarded for completion of an organized program of study; designed for people who have completed a Baccalaureate degree but do not meet the requirements of academic degrees carrying the title of Master.	2.80%
6	Associate's Degree (or other 2-year degree)	2.16%
7	High School Diploma - or the equivalent (for example, GED)	1.26%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

On The Job Training

This section shows the results of a national survey listing the most common lengths of on the job training for Computer and Information Systems Managers.

Rank	On The Job Training	Percentage of Respondents
1	Over 6 months, up to and including 1 year	32.63%
2	Over 1 month, up to and including 3 months	24.43%
3	Over 3 months, up to and including 6 months	23.48%
4	Anything beyond short demonstration, up to and including 1 month	15.17%
5	Over 1 year, up to and including 2 years	3.53%
6	None or short demonstration	0.76%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

On-Site or In-Plant Training

This section shows the results of a national survey listing the most common lengths of on-site or in-plant training for Computer and Information Systems Managers.

Rank	On-Site or In-Plant Training	Percentage of Respondents
1	Up to and including 1 month	31.64%
2	Over 6 months, up to and including 1 year	23.00%
3	None	16.82%
4	Over 1 year, up to and including 2 years	9.72%
5	Over 3 months, up to and including 6 months	6.90%
6	Over 4 years, up to and including 10 years	6.58%
7	Over 1 month, up to and including 3 months	5.33%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Education Level of Jobs and Candidates

This section shows the minimum level of education requested by employers on job openings and green jobs advertised online, as well as the educational attainment of potential candidates in the workforce system that are looking for jobs as Computer and Information Systems Managers in Louisiana on December 8, 2020. There were 9 job openings advertised online that did not specify a minimum education requirement (Jobs De-duplication Level 2).

Rank	Education Level	Job Openings	Percentage of Job Openings	Green Job Count	Percentage of Green Jobs	Potential Candidates	Percentage of Potential Candidates
1	No Minimum Education Requirement	<u>1</u>	8.33%	0	0.00%	0	N/A
2	High School Diploma or Equivalent	<u>1</u>	8.33%	0	0.00%	29	10.07%
3	1 Year of College or a Technical or Vocational School	0	N/A	0	N/A	13	4.51%
4	2 Years of College or a Technical or Vocational School	0	N/A	0	N/A	32	11.11%
5	3 Years of College or a Technical or Vocational School	0	N/A	0	N/A	18	6.25%
6	Vocational School Certificate	0	N/A	0	N/A	9	3.13%
7	Associate's Degree	0	N/A	0	N/A	50	17.36%
8	Bachelor's Degree	<u>1</u>	8.33%	0	0.00%	103	35.76%
9	Master's Degree	0	N/A	0	N/A	26	9.03%
10	Doctorate Degree	0	N/A	0	N/A	5	1.74%
11	Specialized Degree (e.g. MD, DDS)	0	N/A	0	N/A	3	1.04%
12	Not Specified	<u>9</u>	75.00%	<u>1</u>	100.00%	0	N/A

Job Source: Online advertised jobs data

Candidate Source: Individuals with active résumés in the workforce system.

Education Training Programs

This section shows the Education Training Programs for Computer and Information Systems Managers in Louisiana.

Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
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Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Baton Rouge, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Baton Rouge, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	New Roads, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Baton Rouge, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Central, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Jackson, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Port Allen, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Ethical Hacker (Voucher Included)</u> An industry-recognized certificate or certification	Baton Rouge, LA	\$2,895	100 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Information Security Manager (CISM) (Voucher Included)</u> An industry-recognized certificate or certification	Baton Rouge, LA	\$1,395	75 Hours	✓
<u>Baton Rouge Community College</u>	<u>Certified Information Security Manager (CISM) (Voucher Included)</u> An industry-recognized certificate or certification	Baton Rouge, LA	\$1,395	75 Hours	✓

Source: U.S. Department of Commerce, Bureau of the Census, Midyear Estimates

Advertised Job Certifications

This section shows the top advertised certification groups found in job openings advertised online for Computer and Information Systems Managers in Louisiana in November, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Certification Group	Advertised Certification Sub-Category	Job Opening Match Count
1	Information Systems Audit and Control Association (ISACA)	Information and Cyber Security	<u>13</u>
2	(ISC) ² Certifications	Information and Cyber Security	<u>11</u>
3	American Institute of CPAs (AICPA) Certifications	Financial Specialists	<u>3</u>
4	Cisco Associate Certifications	Computer Network	<u>2</u>

Source: Online advertised jobs data

Training Program Completers

There is no data available for Computer and Information Systems Managers in Louisiana.

National Education, Training, Licensing and Qualifications

Computer and Information Systems Managers

Typically, a bachelor's degree in computer or information science, plus related work experience, is required. Many computer and information systems managers also have a graduate degree.

Education

Computer and information systems managers normally must have a bachelor's degree in a computer- or information science–related field. These degrees include courses in computer programming, software development, and mathematics. Management information systems (MIS) programs usually include business classes as well as computer-related ones.

Many organizations require their computer and information systems managers to have a graduate degree as well. A Master of Business Administration (MBA) is common and takes 2 years beyond the undergraduate level to complete. Many people pursuing an MBA take classes while working, an option that can increase the time required to complete that degree.

Work Experience in a Related Occupation

Most jobs for computer and information systems managers require several years of experience in a related information technology (IT) job. Lower-level management positions may require only a few years of experience. Directors are more likely to need 5 to 10 years of related work experience. A chief technology officer (CTO), who oversees the technology plan for a large organization, may need more than 15 years of experience in the IT field before being considered for a job.

The number of years of experience required varies with the organization. Generally, smaller or newer companies do not require as much experience as larger or more established ones.

Computer systems are used throughout the economy, and IT employees may gain experience in a variety of industries. However, an applicant's work experience should be in the same industry they are applying to work in. For example, an IT security manager should have previously worked in information security. A hospital IT director should have experience in the healthcare field.

Advancement

Most computer and information systems managers start out as lower-level managers and advance to higher positions within the IT department. IT directors or project managers can advance to become CTOs. A CTO or other manager who is especially business-minded can advance to become a chief information officer (CIO), the person in charge of all IT-related decisions in an organization. CIOs can advance to become top executives in an organization.

Important Qualities

Analytical

skills.

IT managers must analyze problems and consider and select the best ways to solve them.

Business skills.

IT managers must develop and implement strategic plans to reach the goals of their organizations.

Communication skills.

IT managers must explain their work to top executives and give clear instructions to their subordinates.

Decisionmaking skills.

Some IT managers must make important decisions about how to allocate resources in order to reach their organizations' goals.

Leadership skills.

IT managers must lead and motivate IT teams or departments so that workers are efficient and effective.

Organizational skills.

Some IT managers must coordinate the work of several different IT departments to make the organization run efficiently.

Source: U.S. Department of Labor Bureau of Labor Statistics

Typical Work Experience Requirements

Computer and Information Systems Managers Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Related Work Experience

This section shows the results of a national survey listing the most common related work experience for Computer and Information Systems Managers.

Rank	Related Work Experience	Percentage of Respondents
1	Over 6 years, up to and including 8 years	40.02%
2	Over 4 years, up to and including 6 years	23.94%
3	Over 10 years	13.25%
4	Over 2 years, up to and including 4 years	11.15%
5	Over 8 years, up to and including 10 years	10.55%
6	Over 1 year, up to and including 2 years	1.08%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Work Experience of Jobs and Candidates

This section shows the minimum required work experience requested by employers on job openings and green jobs advertised online, as well as the experience level of potential candidates in the workforce system that are looking for jobs as Computer and Information Systems Managers in Louisiana on December 8, 2020. There were 9 job openings advertised online that did not specify a minimum experience requirement (Jobs De-duplication Level 2).

Rank	Experience	Job Openings	Percentage of Job Openings	Green Job Count	Percentage of Green Jobs	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	9	75.00%	1	100.00%	0	N/A
2	Less than 1 year	0	N/A	0	N/A	10	3.47%
3	1 Year to 2 Years	0	N/A	0	N/A	3	1.04%
4	2 Years to 5 Years	3	25.00%	0	0.00%	13	4.51%
5	5 Years to 10 Years	0	N/A	0	N/A	24	8.33%
6	More than 10 Years	0	N/A	0	N/A	238	82.64%

Job Source: Online advertised jobs data

Candidate Source: Individuals with active résumés in the workforce system.

Current Job Order Wage Information

The employer has NOT indicated a salary range for this job. The information below shows statistics on typical salaries in the local labor market for Computer and Information Systems Managers. This data is NOT an indication of what this employer is willing to pay for this job.

Employment Wage Statistics

This section shows the estimated employment wage statistics for individuals in Louisiana employed for Computer and Information Systems Managers in 2019.

Rate Type / Statistical Type	Q1	Entry level	Median	Experienced	Q3
Annual wage or salary	\$76,474	\$68,040	\$104,043	\$162,944	\$122,898
Hourly wage	\$36.77	\$32.71	\$50.02	\$78.34	\$59.09

Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

Wage Rates on Advertised Jobs

This section shows a statistical breakdown of available wage data on the 12 job openings advertised online for Computer and Information Systems Managers in Louisiana that posted a salary on December 8, 2020.

Rate Type / Statistical Type	Entry Level	Median	Experienced
Annual wage or salary	N/A	N/A	N/A
Hourly Wage	N/A	N/A	N/A

Source: Online advertised jobs data

Note: This information is based on actual job orders and is not based on a statistically valid labor market survey. Hourly wage rate calculations in this section assume a 40 hour work week.

Desired Salary of Available Candidates

This section shows the desired salary of potential candidates in the workforce system that are looking for jobs as Computer and Information Systems Managers in Louisiana on December 8, 2020.

Rank	Desired Salary	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	60	20.55%
2	\$5,000 - \$19,999	4	1.37%
3	\$20,000 - \$34,999	34	11.64%
4	\$35,000 - \$49,999	58	19.86%
5	\$50,000 - \$64,999	45	15.41%
6	\$65,000 - \$79,999	40	13.70%
7	\$80,000 - \$94,999	21	7.19%
8	\$95,000 or more	30	10.27%




















Source: Individuals with active résumés in the workforce system.

Wage Rates Area Distribution

There is no data available for Computer and Information Systems Managers in Louisiana.

Wage Rates in Related Occupations

This section shows a comparison of 2019 median annual rates for occupations that are in the same occupational family as Computer and Information Systems Managers for Louisiana.

Rank	Occupation	Median	*Related By
1	<u>Architectural and Engineering Managers</u> 	\$150,181	O*NET
2	<u>Industrial Production Managers</u> 	\$112,096	SOC4
3	<u>Quality Control Systems Managers</u>	\$112,096	SOC4
4	<u>Geothermal Production Managers</u> 	\$112,096	SOC4
5	<u>Biofuels Production Managers</u> 	\$112,096	SOC4
6	<u>Biomass Power Plant Managers</u> 	\$112,096	SOC4
7	<u>Methane/Landfill Gas Collection System Operators</u> 	\$112,096	SOC4
8	<u>Hydroelectric Production Managers</u> 	\$112,096	SOC4
9	Computer and Information Systems Managers 	\$104,043	N/A
10	<u>Natural Sciences Managers</u> 	\$100,862	O*NET
11	<u>Financial Managers</u> 	\$94,850	SOC4
12	<u>Treasurers and Controllers</u> 	\$94,850	SOC4
13	<u>Financial Managers, Branch or Department</u> 	\$94,850	SOC4
14	<u>Industrial Engineers</u>  	\$89,763	O*NET
15	<u>Purchasing Managers</u>	\$87,861	SOC4
16	<u>Sales Engineers</u>	\$82,467	O*NET
17	<u>Transportation, Storage, and Distribution Managers</u>	\$78,879	SOC4
18	<u>Transportation Managers</u> 	\$78,879	SOC4
19	<u>Storage and Distribution Managers</u> 	\$78,879	SOC4
20	<u>Logistics Managers</u> 	\$78,879	O*NET
21	<u>Claims Examiners, Property and Casualty Insurance</u>	\$69,388	O*NET
22	<u>Logistics Engineers</u> 	\$68,700	O*NET
23	<u>Logistics Analysts</u> 	\$68,700	O*NET
24	<u>Technical Directors/Managers</u>	\$57,813	O*NET
25	<u>Compensation, Benefits, and Job Analysis Specialists</u>	\$47,273	O*NET

 BRIGHT OUTLOOK NATIONALLY |  GREEN OCCUPATIONS

Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.
SOC4 - Occupational grouping based on 1st 4 digits of the Standard Occupational Classification system.

Wage Rates by Industry

There is no data available for Computer and Information Systems Managers in Louisiana.

National Earnings Data Summary

Computer and Information Systems Managers

The median annual wage for computer and information systems managers was \$146,360 in May 2019. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than \$87,480, and the highest 10 percent earned more than \$208,000.

In May 2019, the median annual wages for computer and information systems managers in the top industries in which they worked were as follows:

Information	\$161,930
Computer systems design and related services	152,840
Finance and insurance	150,810
Management of companies and enterprises	148,290
Manufacturing	146,720

Most computer and information systems managers work full time. If problems arise, managers may need to work more than 40 hours a week to come up with solutions.

Source: U.S. Department of Labor Bureau of Labor Statistics

Occupational Employment & Future Employment Outlook

This section shows the long term employment projections for Computer and Information Systems Managers in Louisiana from 2016-2026.

Occupation	2016 Estimated Employment	2026 Projected Employment	Total 2016- 2026 Employment Change	2016-2026 Annual Avg. Percent Change
Computer and Information Systems Managers	1,930	2,329	399	1.90%
Total All	2,034,986	2,203,144	168,158	0.80%

Source: Occupational Employment Projections

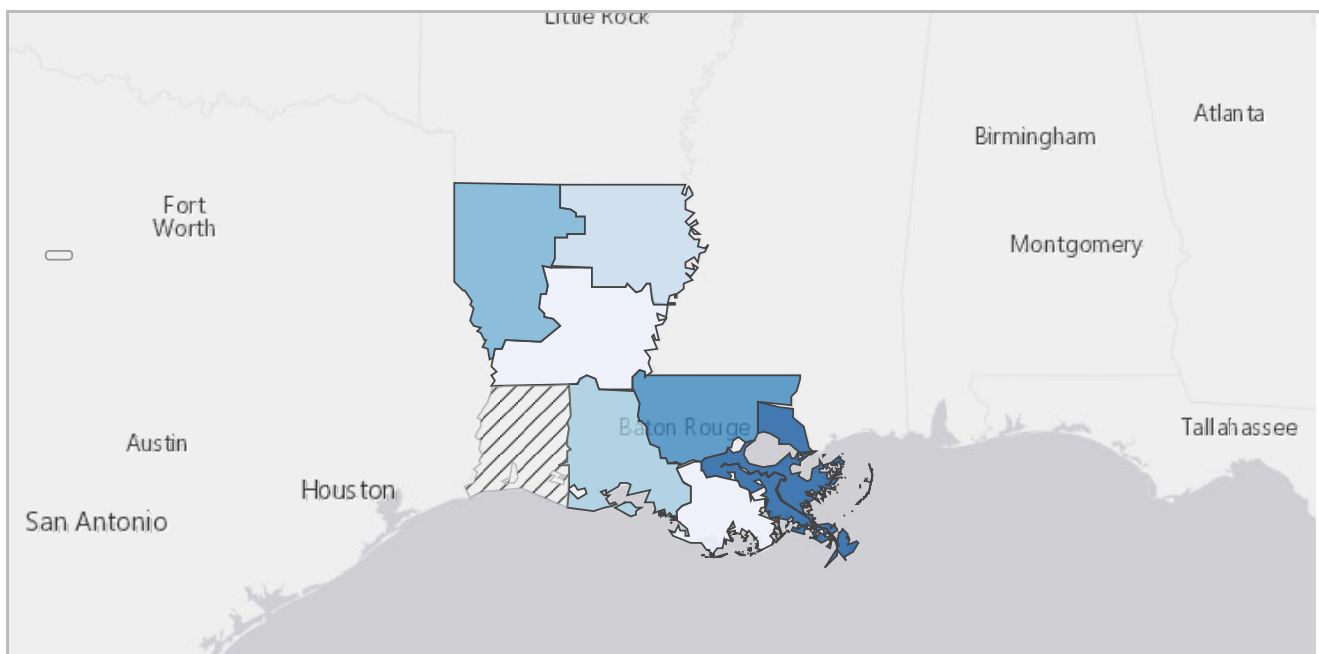
Employment Data Area Distribution

This section shows the distribution of the estimated employment for Computer and Information Systems Managers in Louisiana by regional labor market area.

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Rank	Area	2016 Estimated Employment
1	<u>1st Regional Labor Market Area, New Orleans</u>	603
2	<u>2nd Regional Labor Market Area, Baton Rouge</u>	540
3	<u>7th Regional Labor Market Area, Shreveport</u>	171
4	<u>4th Regional Labor Market Area, Lafayette</u>	170
5	<u>8th Regional Labor Market Area, Monroe</u>	56
6	<u>6th Regional Labor Market Area, Alexandria</u>	51
7	<u>3rd Regional Labor Market Area, Houma</u>	48
*	<u>5th Regional Labor Market Area, Lake Charles</u>	Confidential

* Rank is suppressed for confidential data.



Estimated Employment



Source: Labor Market Statistics, Occupational Employment Projections Program

Employment Data in Related Occupations

This section shows the 2016 Estimated Employment in Louisiana for occupations related to Computer and Information Systems Managers.

Rank	Occupation	2016 Estimated Employment	*Related By
1	<u>Financial Managers</u> ♦	5,009	SOC4

Rank	Occupation	2016 Estimated Employment	*Related By
2	<u>Financial Managers, Branch or Department</u> ♦	5,009	SOC4
3	<u>Treasurers and Controllers</u> ♦	5,009	SOC4
4	<u>Administrative Services Managers</u> ♦	2,993	SOC4
5	<u>Claims Examiners, Property and Casualty Insurance</u>	2,910	O*NET
6	<u>Computer Systems Engineers/Architects</u> ♦	2,873	O*NET
7	<u>Web Administrators</u> ♦	2,873	O*NET
8	<u>Purchasing Agents, Except Wholesale, Retail, and Farm Products</u>	2,633	O*NET
9	<u>Industrial Engineers</u> ♦ 🟢	2,104	O*NET
10	<u>Computer Systems Analysts</u> ♦	1,971	O*NET
11	<u>Informatics Nurse Specialists</u> ♦	1,971	O*NET
12	<u>Computer and Information Systems Managers</u> ♦	1,930	SOC4
13	<u>Logistics Managers</u> 🟢	1,524	O*NET
14	<u>Storage and Distribution Managers</u> 🟢	1,524	SOC4
15	<u>Transportation Managers</u> 🟢	1,524	SOC4
16	<u>Transportation, Storage, and Distribution Managers</u>	1,524	SOC4
17	<u>Biofuels Production Managers</u> 🟢	1,466	SOC4
18	<u>Biomass Power Plant Managers</u> 🟢	1,466	SOC4
19	<u>Geothermal Production Managers</u> 🟢	1,466	SOC4
20	<u>Hydroelectric Production Managers</u> 🟢	1,466	SOC4
21	<u>Industrial Production Managers</u> 🟢	1,466	SOC4
22	<u>Methane/Landfill Gas Collection System Operators</u> 🟢	1,466	SOC4
23	<u>Quality Control Systems Managers</u>	1,466	SOC4
24	<u>Architectural and Engineering Managers</u> 🟢	1,457	O*NET
25	<u>Compensation, Benefits, and Job Analysis Specialists</u>	1,373	O*NET
26	<u>Software Developers, Systems Software</u> ♦ 🟢	1,203	O*NET
27	<u>Fraud Examiners, Investigators and Analysts</u>	1,153	O*NET
28	<u>Risk Management Specialists</u> 🟢	1,153	O*NET
29	<u>Technical Directors/Managers</u>	1,078	O*NET
30	<u>Logistics Analysts</u> 🟢	795	O*NET
31	<u>Logistics Engineers</u> 🟢	795	O*NET
32	<u>Information Security Analysts</u> ♦	757	O*NET
33	<u>Purchasing Managers</u>	707	SOC4
34	<u>Natural Sciences Managers</u> 🟢	272	O*NET

Rank	Occupation	2016 Estimated Employment	*Related By
35	<u>Computer Network Architects</u>	246	O*NET
36	<u>Sales Engineers</u>	195	O*NET

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Source: Occupational Employment Projections

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

SOC4 - Occupational grouping based on 1st 4 digits of the Standard Occupational Classification system.

Projected Annual Openings

This section shows the long term projected annual openings for Computer and Information Systems Managers in Louisiana from 2016 to 2026.

Occupation	Total Annual Average Openings	Annual Average Openings Due to Growth	Annual Average Openings Due to Replacement
Computer and Information Systems Managers	N/A	N/A	N/A
Management	N/A	N/A	N/A

Source: Labor Market Statistics, Occupational Employment Projections Program

Projected Annual Openings Area Distribution

This section shows the distribution of the total annual average openings for Computer and Information Systems Managers in Louisiana by regional labor market area from 2016 to 2026.

Rank	Area	Total Annual Average Openings
1	<u>1st Regional Labor Market Area, New Orleans</u>	N/A
2	<u>2nd Regional Labor Market Area, Baton Rouge</u>	N/A
3	<u>3rd Regional Labor Market Area, Houma</u>	N/A
4	<u>4th Regional Labor Market Area, Lafayette</u>	N/A
5	<u>6th Regional Labor Market Area, Alexandria</u>	N/A
6	<u>7th Regional Labor Market Area, Shreveport</u>	N/A
7	<u>8th Regional Labor Market Area, Monroe</u>	N/A
*	<u>5th Regional Labor Market Area, Lake Charles</u>	Confidential

* Rank is suppressed for confidential data.

There is no total annual average openings data available for Computer and Information Systems Managers in Louisiana.

Source: Labor Market Statistics, Occupational Employment Projections Program

Projected Annual Openings in Related Occupations

This section shows the projected total annual average openings in Louisiana for occupations related to Computer and Information Systems Managers from 2016 to 2026.

Rank	Occupation	Total Annual Average Openings	*Related By
1	<u>Administrative Services Managers</u> ♦	N/A	SOC4
2	<u>Architectural and Engineering Managers</u> 🟢	N/A	O*NET
3	<u>Biofuels Production Managers</u> 🟢	N/A	SOC4
4	<u>Biomass Power Plant Managers</u> 🟢	N/A	SOC4
5	<u>Claims Examiners, Property and Casualty Insurance</u>	N/A	O*NET
6	<u>Compensation, Benefits, and Job Analysis Specialists</u>	N/A	O*NET
7	<u>Computer and Information Systems Managers</u> ♦	N/A	SOC4
8	<u>Computer Network Architects</u>	N/A	O*NET
9	<u>Computer Systems Analysts</u> ♦	N/A	O*NET
10	<u>Computer Systems Engineers/Architects</u> ♦	N/A	O*NET
11	<u>Financial Managers</u> ♦	N/A	SOC4
12	<u>Financial Managers, Branch or Department</u> ♦	N/A	SOC4
13	<u>Fraud Examiners, Investigators and Analysts</u>	N/A	O*NET
14	<u>Geothermal Production Managers</u> 🟢	N/A	SOC4
15	<u>Hydroelectric Production Managers</u> 🟢	N/A	SOC4
16	<u>Industrial Engineers</u> ♦ 🟢	N/A	O*NET
17	<u>Industrial Production Managers</u> 🟢	N/A	SOC4
18	<u>Informatics Nurse Specialists</u> ♦	N/A	O*NET
19	<u>Information Security Analysts</u> ♦	N/A	O*NET
20	<u>Logistics Analysts</u> 🟢	N/A	O*NET
21	<u>Logistics Engineers</u> 🟢	N/A	O*NET
22	<u>Logistics Managers</u> 🟢	N/A	O*NET
23	<u>Methane/Landfill Gas Collection System Operators</u> 🟢	N/A	SOC4
24	<u>Natural Sciences Managers</u> 🟢	N/A	O*NET
25	<u>Purchasing Agents, Except Wholesale, Retail, and Farm Products</u>	N/A	O*NET
26	<u>Purchasing Managers</u>	N/A	SOC4
27	<u>Quality Control Systems Managers</u>	N/A	SOC4
28	<u>Risk Management Specialists</u> 🟢	N/A	O*NET
29	<u>Sales Engineers</u>	N/A	O*NET
30	<u>Software Developers, Systems Software</u> ♦ 🟢	N/A	O*NET

Rank	Occupation	Total Annual Average Openings	*Related By
31	Storage and Distribution Managers 🌱	N/A	SOC4
32	Technical Directors/Managers	N/A	O*NET
33	Transportation Managers 🌱	N/A	SOC4
34	Transportation, Storage, and Distribution Managers	N/A	SOC4
35	Treasurers and Controllers 🌟	N/A	SOC4
36	Web Administrators 🌟	N/A	O*NET

🌟 BRIGHT OUTLOOK NATIONALLY | 🌱 GREEN OCCUPATIONS

Source: Occupational Employment Projections

Industries by Employment

This section shows the industries that employed the highest number of Computer and Information Systems Managers in Louisiana in 2016.

Rank	Industry Title	Estimated Employment	Percent of Total Employment
1	Professional, Scientific, and Technical Services	515	26.68%
2	Educational Services	253	13.11%
3	Management of Companies and Enterprises	160	8.29%
4	Administrative and Support Services	94	4.87%
5	Insurance Carriers and Related Activities	83	4.30%
6	Internet Service Providers, Web Search Portals, and Data Processing Services	79	4.09%
7	Hospitals	61	3.16%
8	Merchant Wholesalers, Durable Goods	35	1.81%
9	Machinery Manufacturing	30	1.55%
10	Merchant Wholesalers, Nondurable Goods	28	1.45%

Source: Louisiana Workforce Commission, Occupational Projections Program

Work Activities

This section shows the most common work activities required by Computer and Information Systems Managers in order of importance. Click on a link in the Work Activity column to view more detailed information.

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Interacting With Computers	Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.	98

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
<u>Making Decisions and Solving Problems</u>	Analyzing information and evaluating results to choose the best solution and solve problems.	88
<u>Getting Information</u>	Observing, receiving, and otherwise obtaining information from all relevant sources.	86
<u>Communicating with Supervisors, Peers, or Subordinates</u>	Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.	84
<u>Identifying Objects, Actions, and Events</u>	Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.	83
<u>Organizing, Planning, and Prioritizing Work</u>	Developing specific goals and plans to prioritize, organize, and accomplish your work.	83
<u>Analyzing Data or Information</u>	Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.	81
<u>Developing and Building Teams</u>	Encouraging and building mutual trust, respect, and cooperation among team members.	78
<u>Developing Objectives and Strategies</u>	Establishing long-range objectives and specifying the strategies and actions to achieve them.	75
<u>Guiding, Directing, and Motivating Subordinates</u>	Providing guidance and direction to subordinates, including setting performance standards and monitoring performance.	75
<u>Processing Information</u>	Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.	74
<u>Establishing and Maintaining Interpersonal Relationships</u>	Developing constructive and cooperative working relationships with others, and maintaining them over time.	73
<u>Coordinating the Work and Activities of Others</u>	Getting members of a group to work together to accomplish tasks.	73
<u>Updating and Using Relevant Knowledge</u>	Keeping up-to-date technically and applying new knowledge to your job.	72
<u>Judging the Qualities of Things, Services, or People</u>	Assessing the value, importance, or quality of things or people.	72
<u>Monitor Processes, Materials, or Surroundings</u>	Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.	70
<u>Coaching and Developing Others</u>	Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills.	69

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
<u>Evaluating Information to Determine Compliance with Standards</u>	Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.	68
<u>Scheduling Work and Activities</u>	Scheduling events, programs, and activities, as well as the work of others.	68
<u>Estimating the Quantifiable Characteristics of Products, Events, or Information</u>	Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.	66
<u>Thinking Creatively</u>	Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.	65
<u>Staffing Organizational Units</u>	Recruiting, interviewing, selecting, hiring, and promoting employees in an organization.	65
<u>Monitoring and Controlling Resources</u>	Monitoring and controlling resources and overseeing the spending of money.	65
<u>Interpreting the Meaning of Information for Others</u>	Translating or explaining what information means and how it can be used.	64
<u>Resolving Conflicts and Negotiating with Others</u>	Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others.	63
<u>Provide Consultation and Advice to Others</u>	Providing guidance and expert advice to management or other groups on technical, systems-, or process-related topics.	61
<u>Documenting/Recording Information</u>	Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.	59
<u>Training and Teaching Others</u>	Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.	55
<u>Performing Administrative Activities</u>	Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.	54
<u>Communicating with Persons Outside Organization</u>	Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.	53
<u>Selling or Influencing Others</u>	Convincing others to buy merchandise/goods or to otherwise change their minds or actions.	53

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
<u>Inspecting Equipment, Structures, or Material</u>	Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.	49
<u>Assisting and Caring for Others</u>	Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.	35
<u>Performing General Physical Activities</u>	Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.	25
<u>Repairing and Maintaining Electronic Equipment</u>	Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.	25
<u>Controlling Machines and Processes</u>	Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).	25
<u>Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment</u>	Providing documentation, detailed instructions, drawings, or specifications to tell others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.	25
<u>Performing for or Working Directly with the Public</u>	Performing for people or dealing directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests.	20

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Tasks

This section shows the most common tasks required by Computer and Information Systems Managers in order of importance. Click on a link in the Task column to view more detailed information.

Tasks	Task Description	Rank by Importance (Out of 100)
<u>Direct daily operations of department, analyzing workflow, establishing priorities, developing standards and setting deadlines.</u>	Core	78
<u>Meet with department heads, managers, supervisors, vendors, and others, to solicit cooperation and resolve problems.</u>	Core	78
<u>Review project plans to plan and coordinate project activity.</u>	Core	77

Tasks	Task Description	Rank by Importance (Out of 100)
<u>Assign and review the work of systems analysts, programmers, and other computer-related workers.</u>	Core	76
<u>Provide users with technical support for computer problems.</u>	Core	75
<u>Develop computer information resources, providing for data security and control, strategic computing, and disaster recovery.</u>	Core	74
<u>Stay abreast of advances in technology.</u>	Core	72
<u>Recruit, hire, train and supervise staff, or participate in staffing decisions.</u>	Core	72
<u>Consult with users, management, vendors, and technicians to assess computing needs and system requirements.</u>	Core	71
<u>Evaluate the organization's technology use and needs and recommend improvements, such as hardware and software upgrades.</u>	Core	68
<u>Develop and interpret organizational goals, policies, and procedures.</u>	Core	68
<u>Review and approve all systems charts and programs prior to their implementation.</u>	Core	67
<u>Prepare and review operational reports or project progress reports.</u>	Core	66
<u>Evaluate data processing proposals to assess project feasibility and requirements.</u>	Core	65
<u>Control operational budget and expenditures.</u>	Core	63
<u>Purchase necessary equipment.</u>	Core	60
<u>Manage backup, security and user help systems.</u>	Supplemental	80

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

National Working Conditions

Computer and Information Systems Managers

Computer and information systems managers held about 461,000 jobs in 2019. The largest employers of computer and information systems managers were as follows:

Computer systems design and related services	22%
Information	11
Finance and insurance	11
Management of companies and enterprises	9
Manufacturing	7

Work Schedules

Most computer and information systems managers work full time. If problems arise, managers may need to work more than 40 hours a week to come up with solutions.

Source: U.S. Department of Labor Bureau of Labor Statistics

Typical Work Conditions

This section shows the most common work conditions required by Computer and Information Systems Managers in order of importance.

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Electronic Mail	How often do you use electronic mail in this job?	100
Work With Work Group or Team	How important is it to work with others in a group or team in this job?	94
Structured versus Unstructured Work	To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals?	94
Face-to-Face Discussions	How often do you have to have face-to-face discussions with individuals or teams in this job?	91
Contact With Others	How much does this job require the worker to be in contact with others (face-to-face, by telephone, or otherwise) in order to perform it?	90
Spend Time Sitting	How much does this job require sitting?	90
Coordinate or Lead Others	How important is it to coordinate or lead others in accomplishing work activities in this job?	89
Responsibility for Outcomes and Results	How responsible is the worker for work outcomes and results of other workers?	89
Telephone	How often do you have telephone conversations in this job?	87
Freedom to Make Decisions	How much decision making freedom, without supervision, does the job offer?	86
Impact of Decisions on Co-workers or Company Results	What results do your decisions usually have on other people or the image or reputation or financial resources of your employer?	84
Importance of Being Exact or Accurate	How important is being very exact or highly accurate in performing this job?	76
Frequency of Decision Making	How frequently is the worker required to make decisions that affect other people, the financial resources, and/or the image and reputation of the organization?	73
Importance of Repeating Same Tasks	How important is repeating the same physical activities (e.g., key entry) or mental activities (e.g., checking entries in a ledger) over and over, without stopping, to performing this job?	72

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Indoors, Environmentally Controlled	How often does this job require working indoors in environmentally controlled conditions?	70
Consequence of Error	How serious would the result usually be if the worker made a mistake that was not readily correctable?	68
Level of Competition	To what extent does this job require the worker to compete or to be aware of competitive pressures?	66
Spend Time Making Repetitive Motions	How much does this job require making repetitive motions?	65
Time Pressure	How often does this job require the worker to meet strict deadlines?	59
Frequency of Conflict Situations	How often are there conflict situations the employee has to face in this job?	58
Deal With External Customers	How important is it to work with external customers or the public in this job?	51
Letters and Memos	How often does the job require written letters and memos?	50
Deal With Unpleasant or Angry People	How frequently does the worker have to deal with unpleasant, angry, or discourteous individuals as part of the job requirements?	49
Responsible for Others' Health and Safety	How much responsibility is there for the health and safety of others in this job?	49
Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls	How much does this job require using your hands to handle, control, or feel objects, tools or controls?	49
Physical Proximity	To what extent does this job require the worker to perform job tasks in close physical proximity to other people?	41
Degree of Automation	How automated is the job?	39
Sounds, Noise Levels Are Distracting or Uncomfortable	How often does this job require working exposed to sounds and noise levels that are distracting or uncomfortable?	33
Public Speaking	How often do you have to perform public speaking in this job?	27

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Work Values and Needs

This section shows the information on the current work values for your selected occupation.

Work Value	Work Value Description	Rank By Extent (Out of 100)
Working Conditions	Occupations that satisfy this work value offer job security and good working conditions. Corresponding needs are Activity, Compensation, Independence, Security, Variety and Working Conditions.	92
Support	Occupations that satisfy this work value offer supportive management that stands behind employees. Corresponding needs are Company Policies, Supervision: Human Relations and Supervision: Technical.	78
Achievement	Occupations that satisfy this work value are results oriented and allow employees to use their strongest abilities, giving them a feeling of accomplishment. Corresponding needs are Ability Utilization and Achievement.	72
Recognition	Occupations that satisfy this work value offer advancement, potential for leadership, and are often considered prestigious. Corresponding needs are Advancement, Authority, Recognition and Social Status.	72
Independence	Occupations that satisfy this work value allow employees to work on their own and make decisions. Corresponding needs are Creativity, Responsibility and Autonomy.	67
Relationships	Occupations that satisfy this work value allow employees to provide service to others and work with co-workers in a friendly non-competitive environment. Corresponding needs are Co-workers, Moral Values and Social Service.	56

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Tools

This section shows common tools used by Computer and Information Systems Managers.

Detailed Tool	Tool Group
Access servers	Access servers
Computer servers	Computer servers
File servers	Computer servers
Internet Information Services IIS Servers	Computer servers
Mid-range computers	Computer servers
Minicomputers	Computer servers
Netware servers	Computer servers
Storage servers	Computer servers
Web servers	Computer servers
Computer tool kits	Computer tool kits
Workstations	High end computer servers

Detailed Tool	Tool Group
Inkjet printers	Inkjet printers
Robot automation tool	Integrated services digital network ISDN access devices
Laser facsimile machines	Laser fax machine
Laser printers	Laser printers
Mainframe computers	Mainframe computers
Network analyzers	Network analyzers
Network interface cards NIC	Network interface cards
Network routers	Network routers
Network switches	Network switches
Industry standard architecture/peripheral component interconnect ISA/PCI cards	Peripheral controller cards
Personal computers	Personal computers
Photocopiers	Photocopiers
Print servers	Print servers
Punchdown tools	Punches or nail sets or drifts
Screwdrivers	Screwdrivers
Teleconferencing equipment	Teleconference equipment

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Technology

This section shows common technology used by Computer and Information Systems Managers.

Detailed Technology	Technology Group
Citrix	Access software
Mac HelpMate	Access software
Billing software	Accounting software
Tax software	Accounting software
SolarWinds	Administration software
IBM SPSS Statistics	Analytical or scientific software
SAS	Analytical or scientific software
StataCorp Stata	Analytical or scientific software
The MathWorks MATLAB	Analytical or scientific software
Microsoft Windows Server	Application server software
Oracle WebLogic Server	Application server software

Detailed Technology

Progress OpenEdge Application Server

Red Hat WildFly

Veritas NetBackup

IBM Cognos Impromptu

MicroStrategy

Oracle Business Intelligence Enterprise Edition

Qlik Tech QlikView

Tableau

Microsoft Entourage

IBM Domino

Pilgrim Quality Solutions SmartSolve

SOX COBIT

Perforce Helix software

Puppet

VMWare

Atlassian JIRA

ACT! Premium

Blackbaud The Raiser's Edge

Microsoft Business Contact Manager

Microsoft Dynamics CRM

Oracle Eloqua

Oracle Siebel Server Sync

Performance Solutions Technology ManagePro

Alpha Four

Apache Cassandra

Apache Hadoop

Apache Pig

Apache Solr

MongoDB

NoSQL

Oracle PL/SQL

Progress OpenEdge Fathom Replication software

Relational database management software

Teradata Database

Technology Group

Application server software

Application server software

Backup or archival software

Business intelligence and data analysis software

Business intelligence and data analysis software

Business intelligence and data analysis software

Business intelligence and data analysis software

Business intelligence and data analysis software

Calendar and scheduling software

Communications server software

Compliance software

Compliance software

Configuration management software

Configuration management software

Configuration management software

Content workflow software

Customer relationship management CRM software

Customer relationship management CRM software

Customer relationship management CRM software

Customer relationship management CRM software

Customer relationship management CRM software

Customer relationship management CRM software

Customer relationship management CRM software

Data base management system software

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Detailed Technology

SAP Crystal Reports
Amazon Web Services AWS software
Blackboard
Data entry software
FileMaker Pro
Langlais Computer Consultants CalMan
Microsoft Access
Microsoft SQL Server
MySQL
Oracle DBMS
Structured query language SQL
Google Analytics
Adobe Systems Adobe Distiller
Apache Maven
Assembler
C
Common business oriented language COBOL
Eclipse IDE
Integrated development environment IDE software
K2 Business Process Automation
Microsoft .NET Framework
Microsoft Azure
Microsoft Visual Basic
Microsoft Visual Basic Scripting Edition
VBScript
Microsoft Visual Studio
Progress OpenEdge ABL
Linux-based email software
Microsoft Exchange Server
Microsoft Outlook
Pegasus software
QUALCOMM Eudora
Extensible markup language XML
IBM InfoSphere DataStage

Technology Group

Data base reporting software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data base user interface and query software
Data mining software
Desktop publishing software
Development environment software
Development environment software
Development environment software
Development environment software
Development environment software
Development environment software
Development environment software
Development environment software
Development environment software
Development environment software
Electronic mail software
Electronic mail software
Electronic mail software
Electronic mail software
Electronic mail software
Enterprise application integration software
Enterprise application integration software

Detailed Technology

IBM WebSphere
Oracle Fusion Middleware
Progress Sonic ESB
Infor ERP Baan
Microsoft Dynamics
Microsoft Dynamics AX
Microsoft Dynamics GP
Microsoft Dynamics NAV
NetSuite ERP
Oracle E-Business Suite
Oracle Fusion Applications
Oracle Hyperion
Oracle JD Edwards EnterpriseOne
Oracle PeopleSoft
SAP
SAP Business Objects
IBM Power Systems software
Splunk Enterprise
File transfer protocol FTP software
Samba
Symantec Veritas File System
Symantec Veritas Volume Manager
Oracle E-Business Suite Financials
TKSoftware
Adobe Systems Adobe Flash
Microsoft Visio
Help desk software
Human resource management software HRMS
Microsoft Internet Explorer
Netscape Navigator
LAN software
CA Erwin Data Modeler
Microsoft Office SharePoint Server MOSS
Telnet programs software
Zephyr EXTRA! Terminal Emulation

Technology Group

Enterprise application integration software
Enterprise application integration software
Enterprise application integration software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
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Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise resource planning ERP software
Enterprise system management software
Enterprise system management software
Filesystem software
Filesystem software
Filesystem software
Filesystem software
Financial analysis software
Graphical user interface development software
Graphics or photo imaging software
Graphics or photo imaging software
Helpdesk or call center software
Human resources software
Internet browser software
Internet browser software
LAN software
Metadata management software
Network conferencing software
Network connectivity terminal emulation software
Network connectivity terminal emulation software

Detailed Technology	Technology Group
Dartware InterMapper	Network monitoring software
Nagios	Network monitoring software
Firewall software	Network security and virtual private network VPN equipment software
Virtual private networking VPN software	Network security and virtual private network VPN equipment software
Advanced business application programming ABAP	Object or component oriented development software
Borland Paradox	Object or component oriented development software
C#	Object or component oriented development software
C++	Object or component oriented development software
Embarcadero Delphi	Object or component oriented development software
Microsoft SQL Server Reporting Services SSRS	Object or component oriented development software
Objective C	Object or component oriented development software
Oracle Java	Object or component oriented development software
Practical extraction and reporting language Perl	Object or component oriented development software
Python	Object or component oriented development software
R	Object or component oriented development software
Microsoft Visual FoxPro	Object oriented data base management software
PostgreSQL	Object oriented data base management software
Corel Office Suite	Office suite software
Microsoft Office	Office suite software
Apple macOS	Operating system software
Hewlett Packard HP-UX	Operating system software
KornShell	Operating system software
Linux	Operating system software
Oracle Solaris	Operating system software
Red Hat Enterprise Linux	Operating system software
Shell script	Operating system software
UNIX	Operating system software
IBM iSeries Access	Platform interconnectivity software
Apache HTTP Server	Portal server software
Oracle iPlanet Web Server	Portal server software
Apple iWork Keynote	Presentation software
Microsoft PowerPoint	Presentation software

Detailed Technology	Technology Group
Microsoft Project	Project management software
Microsoft SharePoint	Project management software
Oracle Primavera Systems	Project management software
Unified modeling language UML	Requirements analysis and system architecture software
Apple iWork Numbers	Spreadsheet software
Microsoft Excel	Spreadsheet software
McAfee	Transaction security and virus protection software
Symantec	Transaction security and virus protection software
Customer information control system CICS	Transaction server software
Apple Final Cut Pro	Video creation and editing software
Apple iMovie	Video creation and editing software
Cisco Systems WAN Manager	WAN switching software and firmware
Microsoft Front Page	Web page creation and editing software
Adobe Systems Adobe Flex	Web platform development software
Apache Tomcat	Web platform development software
Backbone.js	Web platform development software
Drupal	Web platform development software
Dynamic hypertext markup language DHTML	Web platform development software
Enterprise JavaBeans	Web platform development software
Extensible HyperText Markup Language XHTML	Web platform development software
Hypertext markup language HTML	Web platform development software
JavaScript	Web platform development software
LAMP Stack	Web platform development software
Microsoft Active Server Pages ASP	Web platform development software
Node.js	Web platform development software
PHP: Hypertext Preprocessor	Web platform development software
Progress WebSpeed Workshop	Web platform development software
Ruby on Rails	Web platform development software
Spring Framework	Web platform development software
Mobile wireless network infrastructure software	Wireless software
Apple iWork Pages	Word processing software
Microsoft Word	Word processing software

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Licensing Information

There is no data available for Computer and Information Systems Managers in Louisiana.

Typical Knowledge Categories

This section shows the most common knowledge categories required by Computer and Information Systems Managers in order of importance. Click on a link in the Knowledge Category column to view more detailed information.

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
Computers and Electronics	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.	94
Customer and Personal Service	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.	76
Administration and Management	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.	68
Engineering and Technology	Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.	63
English Language	Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.	62
Personnel and Human Resources	Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.	61
Mathematics	Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.	54
Telecommunications	Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.	41
Design	Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.	40
Clerical	Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.	37

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
<u>Geography</u>	Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.	31
<u>Psychology</u>	Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.	31
<u>Communications and Media</u>	Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.	29
<u>Economics and Accounting</u>	Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.	29
<u>Law and Government</u>	Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.	28
<u>Public Safety and Security</u>	Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.	24
<u>Sales and Marketing</u>	Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.	23
<u>Sociology and Anthropology</u>	Knowledge of group behavior and dynamics, societal trends and influences, human migrations, ethnicity, cultures and their history and origins.	23
<u>Production and Processing</u>	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.	20

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Work Abilities Required

This section shows the results of a national survey listing the most common work abilities required by Computer and Information Systems Managers in order of importance. Click on a link in the Work Ability column to view more detailed information.

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Work Ability	Work Ability Description	Rank by Importance (Out of 100)
<u>Deductive Reasoning</u>	The ability to apply general rules to specific problems to produce answers that make sense.	75
<u>Inductive Reasoning</u>	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	75
<u>Oral Comprehension</u>	The ability to listen to and understand information and ideas presented through spoken words and sentences.	75
<u>Oral Expression</u>	The ability to communicate information and ideas in speaking so others will understand.	75
<u>Problem Sensitivity</u>	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	75
<u>Written Comprehension</u>	The ability to read and understand information and ideas presented in writing.	75
<u>Information Ordering</u>	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	69
<u>Near Vision</u>	The ability to see details at close range (within a few feet of the observer).	69
<u>Written Expression</u>	The ability to communicate information and ideas in writing so others will understand.	69
<u>Speech Clarity</u>	The ability to speak clearly so others can understand you.	66
<u>Fluency of Ideas</u>	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	60
<u>Speech Recognition</u>	The ability to identify and understand the speech of another person.	60
<u>Category Flexibility</u>	The ability to generate or use different sets of rules for combining or grouping things in different ways.	56
<u>Originality</u>	The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.	56
<u>Number Facility</u>	The ability to add, subtract, multiply, or divide quickly and correctly.	53
<u>Flexibility of Closure</u>	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	50
<u>Mathematical Reasoning</u>	The ability to choose the right mathematical methods or formulas to solve a problem.	50

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
<u>Visualization</u>	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	50
<u>Selective Attention</u>	The ability to concentrate on a task over a period of time without being distracted.	47
<u>Far Vision</u>	The ability to see details at a distance.	44
<u>Perceptual Speed</u>	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	44
<u>Speed of Closure</u>	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	44
<u>Memorization</u>	The ability to remember information such as words, numbers, pictures, and procedures.	41
<u>Time Sharing</u>	The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).	41
<u>Visual Color Discrimination</u>	The ability to match or detect differences between colors, including shades of color and brightness.	35
<u>Arm-Hand Steadiness</u>	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	31
<u>Finger Dexterity</u>	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	28
<u>Manual Dexterity</u>	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	28
<u>Auditory Attention</u>	The ability to focus on a single source of sound in the presence of other distracting sounds.	25
<u>Control Precision</u>	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	25
<u>Wrist-Finger Speed</u>	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	25
<u>Depth Perception</u>	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	19
<u>Hearing Sensitivity</u>	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	19

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
<u>Trunk Strength</u>	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	19
<u>Dynamic Strength</u>	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	13
<u>Multilimb Coordination</u>	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	10
<u>Rate Control</u>	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	6
<u>Reaction Time</u>	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	6
<u>Response Orientation</u>	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.	6
<u>Glare Sensitivity</u>	The ability to see objects in the presence of glare or bright lighting.	3
<u>Spatial Orientation</u>	The ability to know your location in relation to the environment or to know where other objects are in relation to you.	3

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Work Interests

This section shows the results of a national survey listing the most common work interests for Computer and Information Systems Managers in order of importance.

Work Interest	Work Interest Description	Rank by Importance (Out of 100)
Enterprising	Enterprising occupations frequently involve starting up and carrying out projects. These occupations can involve leading people and making many decisions. Sometimes they require risk taking and often deal with business.	95
Conventional	Conventional occupations frequently involve following set procedures and routines. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.	72

Work Interest	Work Interest Description	Rank by Importance (Out of 100)
Investigative	Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.	56
Realistic	Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.	50

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Work Styles

This section shows the most common work styles required by Computer and Information Systems Managers in order of importance. Click on a link in the Work Style column to view more detailed information.

Work Style	Work Style Description	Rank by Importance (Out of 100)
Attention to Detail	Job requires being careful about detail and thorough in completing work tasks.	92
Integrity	Job requires being honest and ethical.	92
Dependability	Job requires being reliable, responsible, and dependable, and fulfilling obligations.	89
Initiative	Job requires a willingness to take on responsibilities and challenges.	84
Cooperation	Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.	83
Analytical Thinking	Job requires analyzing information and using logic to address work-related issues and problems.	81
Adaptability/Flexibility	Job requires being open to change (positive or negative) and to considerable variety in the workplace.	80
Stress Tolerance	Job requires accepting criticism and dealing calmly and effectively with high stress situations.	79
Leadership	Job requires a willingness to lead, take charge, and offer opinions and direction.	79
Self Control	Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.	78
Persistence	Job requires persistence in the face of obstacles.	76

Work Style	Work Style Description	Rank by Importance (Out of 100)
<u>Achievement/Effort</u>	Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.	73
<u>Independence</u>	Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.	70
<u>Concern for Others</u>	Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.	68
<u>Innovation</u>	Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.	68
<u>Social Orientation</u>	Job requires preferring to work with others rather than alone, and being personally connected with others on the job.	67

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Related Occupations

This section shows a list of occupations related to Computer and Information Systems Managers. Click an occupation title to see more information about that occupation.

Rank	Related Occupations	Duties	*Related By
1	<u>Administrative Services Managers</u> 🟡	Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services.	SOC4
2	<u>Biofuels Production Managers</u> 🟢	Manage biofuels production and plant operations. Collect and process information on plant production and performance, diagnose problems, and design corrective procedures.	SOC4
3	<u>Biomass Power Plant Managers</u> 🟢	Manage operations at biomass power generation facilities. Direct work activities at plant, including supervision of operations and maintenance staff.	SOC4
4	<u>Geothermal Production Managers</u> 🟢	Manage operations at geothermal power generation facilities. Maintain and monitor geothermal plant equipment for efficient and safe plant operations.	SOC4
5	<u>Hydroelectric Production Managers</u> 🟢	Manage operations at hydroelectric power generation facilities. Maintain and monitor hydroelectric plant equipment for efficient and safe plant operations.	SOC4

Rank	Related Occupations	Duties	*Related By
6	<u>Industrial Production Managers</u> 🟢	Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.	SOC4
7	<u>Methane/Landfill Gas Collection System Operators</u> 🟢	Direct daily operations, maintenance, or repair of landfill gas projects, including maintenance of daily logs, determination of service priorities, and compliance with reporting requirements.	SOC4
8	<u>Purchasing Managers</u>	Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Includes wholesale or retail trade merchandising managers and procurement managers.	SOC4
9	<u>Quality Control Systems Managers</u>	Plan, direct, or coordinate quality assurance programs. Formulate quality control policies and control quality of laboratory and production efforts.	SOC4
10	<u>Financial Managers</u> 🟡	Plan, direct, or coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.	SOC4
11	<u>Financial Managers, Branch or Department</u> 🟡	Direct and coordinate financial activities of workers in a branch, office, or department of an establishment, such as branch bank, brokerage firm, risk and insurance department, or credit department.	SOC4
12	<u>Storage and Distribution Managers</u> 🟢	Plan, direct, or coordinate the storage or distribution operations within an organization or the activities of organizations that are engaged in storing or distributing materials or products.	SOC4
13	<u>Transportation Managers</u> 🟢	Plan, direct, or coordinate the transportation operations within an organization or the activities of organizations that provide transportation services.	SOC4
14	<u>Transportation, Storage, and Distribution Managers</u>	Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.	SOC4
15	<u>Treasurers and Controllers</u> 🟡	Direct financial activities, such as planning, procurement, and investments for all or part of an organization.	SOC4
16	<u>Compensation, Benefits, and Job Analysis Specialists</u>	Conduct programs of compensation and benefits and job analysis for employer. May specialize in specific areas, such as position classification and pension programs.	O*NET
17	<u>Architectural and Engineering Managers</u> 🟢	Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.	O*NET
18	<u>Claims Examiners, Property and Casualty Insurance</u>	Review settled insurance claims to determine that payments and settlements have been made in accordance with company practices and procedures. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation.	O*NET

Rank	Related Occupations	Duties	*Related By
19	<u>Computer Network Architects</u>	Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.	O*NET
20	<u>Computer Systems Analysts</u> ♦	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.	O*NET
21	<u>Computer Systems Engineers/Architects</u> ♦	Design and develop solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions.	O*NET
22	<u>Fraud Examiners, Investigators and Analysts</u>	Obtain evidence, take statements, produce reports, and testify to findings regarding resolution of fraud allegations. May coordinate fraud detection and prevention activities.	O*NET
23	<u>Industrial Engineers</u> ♦ 🌱	Design, develop, test, and evaluate integrated systems for managing industrial production processes, including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.	O*NET
24	<u>Informatics Nurse Specialists</u> ♦	Apply knowledge of nursing and informatics to assist in the design, development, and ongoing modification of computerized health care systems. May educate staff and assist in problem solving to promote the implementation of the health care system.	O*NET
25	<u>Information Security Analysts</u> ♦	Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.	O*NET
26	<u>Logistics Analysts</u> 🌱	Analyze product delivery or supply chain processes to identify or recommend changes. May manage route activity including invoicing, electronic bills, and shipment tracing.	O*NET
27	<u>Logistics Engineers</u> 🌱	Design or analyze operational solutions for projects such as transportation optimization, network modeling, process and methods analysis, cost containment, capacity enhancement, routing and shipment optimization, or information management.	O*NET
28	<u>Logistics Managers</u> 🌱	Plan, direct, or coordinate purchasing, warehousing, distribution, forecasting, customer service, or planning services. Manage logistics personnel and logistics systems and direct daily operations.	O*NET
29	<u>Natural Sciences Managers</u> 🌱	Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields.	O*NET

Rank	Related Occupations	Duties	*Related By
30	<u>Purchasing Agents, Except Wholesale, Retail, and Farm Products</u>	Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing.	O*NET
31	<u>Risk Management Specialists</u> 🌱	Analyze and manage risk management issues by identifying, measuring, and making decisions on operational or enterprise risks for an organization.	O*NET
32	<u>Sales Engineers</u>	Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering.	O*NET
33	<u>Software Developers, Systems Software</u> 🌱 🌱	Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.	O*NET
34	<u>Technical Directors/Managers</u>	Coordinate activities of technical departments, such as taping, editing, engineering, and maintenance, to produce radio or television programs.	O*NET
35	<u>Web Administrators</u> 🌱	Manage web environment design, deployment, development and maintenance activities. Perform testing and quality assurance of web sites and web applications.	O*NET

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Source: **Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

SOC4 - Occupational grouping based on 1st 4 digits of the Standard Occupational Classification system.

Career Ladder

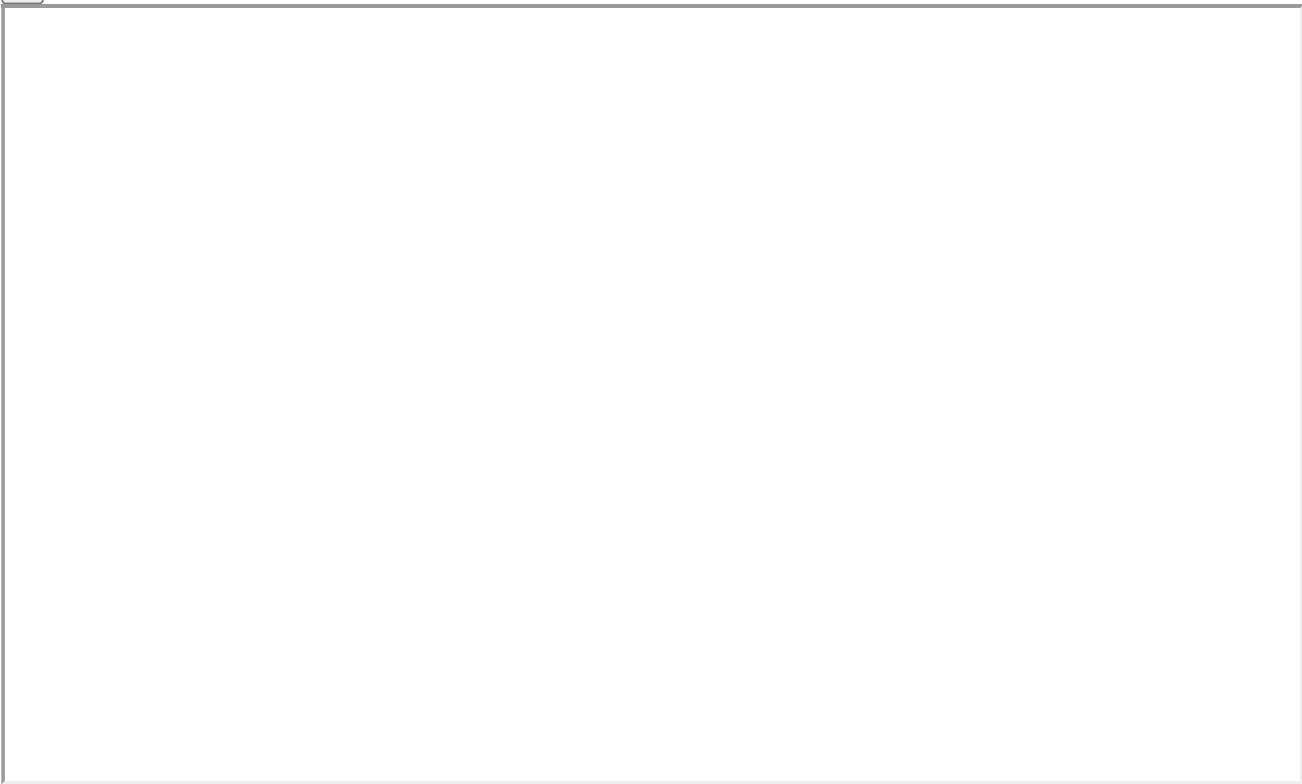
This section shows the top 10 occupations and the corresponding individuals in the workforce system who were previously Computer and Information Systems Managers and have changed their occupation over the last 5 years.

Occupation Title	Number of Individuals that Moved	Percentage of Individuals that Moved
<u>Information Technology Project Managers</u> 🌱	36	19.89%
<u>Computer User Support Specialists</u> 🌱	27	14.92%
<u>Computer Network Support Specialists</u>	24	13.26%
<u>Computer Systems Analysts</u> 🌱	20	11.05%
<u>Customer Service Representatives</u> 🌱 🌱	16	8.84%
<u>Network and Computer Systems Administrators</u>	15	8.29%
<u>Managers, All Other</u>	12	6.63%

Occupation Title	Number of Individuals that Moved	Percentage of Individuals that Moved
<u>Retail Salespersons</u> 🌟	11	6.08%
<u>General and Operations Managers</u> 🌟 🌿	10	5.52%
<u>Cashiers</u> 🌟	10	5.52%

🌟 BRIGHT OUTLOOK NATIONALLY | 🌿 GREEN OCCUPATIONS

Source: Individuals with active résumés in the workforce system.



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