

13-2099 Financial Specialists, All Other



All financial specialists not listed separately. *Examples: Bail Bondsman; Executor of Estate; Foreign Exchange Trader*

Training Category: Bachelor's | none | Moderate OJT

2017 Average Wage:	\$34.91
2016 Estimated Employment:	554
2026 Projected Employment:	616
Growth Rate, 2016-2026:	11.2%
Annual Openings:	54

Industry	2016 Share	2026 Share
523 Financial Investment and Related Activities	16.1%	16.7%
524 Insurance Carriers and Related Activities	15.7%	15.1%
551 Management of Companies and Enterprises	6.3%	6.2%
622 Hospitals	6.3%	6.0%
522 Credit Intermediation and Related Activities	4.9%	4.7%
Local Government, Excluding Education	4.9%	4.6%

15-1111 Computer and Information Research Scientists



Conduct research into fundamental computer and information science as theorists, designers, or inventors. Develop solutions to problems in the field of computer hardware and software. *Examples: Control System Computer Scientist; Computational Theory Scientist*

Training Category: Master's | none | none

2017 Average Wage:	\$62.99
2016 Estimated Employment:	172
2026 Projected Employment:	185
Growth Rate, 2016-2026:	7.6%
Annual Openings:	12

Industry	2016 Share	2026 Share
Federal Government, Excluding Post Office	1.7%	1.6%
332 Fabricated Metal Product Manufacturing	n	n
334 Computer and Electronic Product Manufacturing	n	n
511 Publishing Industries (except Internet)	n	n
5415 Computer Systems Design and Related Services	n	n
5417 Scientific Research and Development Services	n	n

15-1121 Computer Systems Analysts



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. *Examples: Applications Analyst; Data Processing Systems Analyst*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$43.56
2016 Estimated Employment:	2,374
2026 Projected Employment:	2,488
Growth Rate, 2016-2026:	4.8%
Annual Openings:	163

Industry	2016 Share	2026 Share
524 Insurance Carriers and Related Activities	34.8%	34.0%
5415 Computer Systems Design and Related Services	7.3%	8.5%
511 Publishing Industries (except Internet)	5.2%	5.3%
517 Telecommunications	5.1%	4.3%
334 Computer and Electronic Product Manufacturing	5.1%	4.2%
5416 Management and Technical Consulting Services	4.4%	5.1%

15-1122 Information Security Analysts



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. *Examples: Computer Security Specialist; Internet Security Specialist; Network Security Analyst*

Training Category: Bachelor's | < 5 yrs | none

2017 Average Wage:	\$48.27
2016 Estimated Employment:	367
2026 Projected Employment:	469
Growth Rate, 2016-2026:	27.8%
Annual Openings:	37

Industry	2016 Share	2026 Share
524 Insurance Carriers and Related Activities	37.1%	36.0%
518 Data Processing, Hosting, and Related Services	15.8%	19.0%
5415 Computer Systems Design and Related Services	11.7%	14.5%
334 Computer and Electronic Product Manufacturing	n	n
522 Credit Intermediation and Related Activities	n	n
523 Financial Investment and Related Activities	n	n

15-1131 Computer Programmers



Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information. *Examples: Applications Programmer; Systems Programmer*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$36.33
2016 Estimated Employment:	1,559
2026 Projected Employment:	1,475
Growth Rate, 2016-2026:	-5.4%
Annual Openings:	86

Industry	2016 Share	2026 Share
5415 Computer Systems Design and Related Services	48.6%	50.5%
511 Publishing Industries (except Internet)	15.2%	14.7%
Self-employed Workers	4.7%	5.8%
524 Insurance Carriers and Related Activities	3.9%	3.7%
334 Computer and Electronic Product Manufacturing	2.6%	2.0%
423 Merchant Wholesalers, Durable Goods	2.5%	2.4%

15-1132 Software Developers, Applications



Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers. *Examples: Computer Applications Engineer; Database Developer; Software Applications Engineer*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$50.49
2016 Estimated Employment:	5,045
2026 Projected Employment:	6,499
Growth Rate, 2016-2026:	28.8%
Annual Openings:	507

Industry	2016 Share	2026 Share
5415 Computer Systems Design and Related Services	32.8%	37.4%
511 Publishing Industries (except Internet)	12.4%	12.2%
524 Insurance Carriers and Related Activities	11.5%	10.5%
334 Computer and Electronic Product Manufacturing	8.5%	6.6%
518 Data Processing, Hosting, and Related Services	5.0%	5.0%
425 Wholesale Electronic Markets and Agents/Brokers	3.1%	2.8%

15-1133 Software Developers, Systems Software



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. *Examples: Computer Systems Software Architect; Software Systems Engineer*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$57.10
2016 Estimated Employment:	1,443
2026 Projected Employment:	1,498
Growth Rate, 2016-2026:	3.8%
Annual Openings:	98

Industry	2016 Share	2026 Share
334 Computer and Electronic Product Manufacturing	39.0%	33.6%
5415 Computer Systems Design and Related Services	14.0%	16.6%
6113 Colleges and Universities	11.2%	11.2%
524 Insurance Carriers and Related Activities	5.7%	5.7%
5417 Scientific Research and Development Services	5.7%	6.3%
523 Financial Investment and Related Activities	n	n

15-1134 Web Developers



Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content. *Examples: Internet Developer; Intranet Developer; Web Designer*

Training Category: Associate | none | none

2017 Average Wage:	\$31.45
2016 Estimated Employment:	703
2026 Projected Employment:	808
Growth Rate, 2016-2026:	14.9%
Annual Openings:	62

Industry	2016 Share	2026 Share
5415 Computer Systems Design and Related Services	24.9%	26.6%
Self-employed Workers	14.2%	14.7%
5418 Advertising, Public Relations, and Related Services	7.4%	7.6%
6113 Colleges and Universities	6.4%	5.8%
454 Nonstore Retailers	5.8%	6.7%
State Government, excl. Education and Hospitals	4.7%	4.2%

15-1141 Database Administrators



Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases. *Examples: Database Management Systems Specialist; Database Security Administrator*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$42.12
2016 Estimated Employment:	446
2026 Projected Employment:	498
Growth Rate, 2016-2026:	11.7%
Annual Openings:	35

Industry	2016 Share	2026 Share
State Government, excl. Education and Hospitals	14.6%	13.3%
524 Insurance Carriers and Related Activities	12.3%	12.3%
518 Data Processing, Hosting, and Related Services	11.4%	12.1%
6113 Colleges and Universities	9.4%	8.8%
5416 Management and Technical Consulting Services	8.7%	9.8%
5415 Computer Systems Design and Related Services	7.2%	7.8%

15-1142 Network and Computer Systems Administrators



Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. *Examples: Network Coordinator; Network Security Administrator*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$38.39
2016 Estimated Employment:	1,952
2026 Projected Employment:	2,009
Growth Rate, 2016-2026:	2.9%
Annual Openings:	127

Industry	2016 Share	2026 Share
524 Insurance Carriers and Related Activities	20.7%	20.9%
517 Telecommunications	8.6%	7.2%
5415 Computer Systems Design and Related Services	6.9%	8.3%
6111 Elementary and Secondary Schools	5.9%	5.6%
334 Computer and Electronic Product Manufacturing	5.1%	4.2%
6113 Colleges and Universities	5.1%	4.9%

15-1143 Computer Network Architects



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. *Examples: Computer Network Engineer; Network Designer; Network Developer*

Training Category: Bachelor's | 5+ yrs | none

2017 Average Wage:	\$53.74
2016 Estimated Employment:	375
2026 Projected Employment:	389
Growth Rate, 2016-2026:	3.7%
Annual Openings:	25

Industry	2016 Share	2026 Share
524 Insurance Carriers and Related Activities	24.0%	23.1%
5415 Computer Systems Design and Related Services	18.1%	21.3%
517 Telecommunications	7.7%	6.4%
334 Computer and Electronic Product Manufacturing	7.5%	5.9%
811 Repair and Maintenance	6.9%	6.4%
523 Financial Investment and Related Activities	n	n

15-1151 Computer User Support Specialists



Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. *Examples: Desktop Support Specialist, Help Desk Technician*

Training Category: Some College | none | none

2017 Average Wage:	\$27.25
2016 Estimated Employment:	2,516
2026 Projected Employment:	2,768
Growth Rate, 2016-2026:	10.0%
Annual Openings:	215

Industry	2016 Share	2026 Share
5415 Computer Systems Design and Related Services	13.5%	15.0%
511 Publishing Industries (except Internet)	11.1%	11.4%
6111 Elementary and Secondary Schools	8.1%	7.5%
524 Insurance Carriers and Related Activities	7.2%	7.0%
6113 Colleges and Universities	6.8%	6.4%
622 Hospitals	5.5%	5.2%

15-1152 Computer Network Support Specialists



Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption.
Examples: Network Diagnostic Support Technician; Network Support Technician; Network Technician

Training Category: Associate | none | none

2017 Average Wage:	\$31.25
2016 Estimated Employment:	422
2026 Projected Employment:	453
Growth Rate, 2016-2026:	7.4%
Annual Openings:	34

Industry	2016 Share	2026 Share
518 Data Processing, Hosting, and Related Services	22.0%	24.1%
517 Telecommunications	18.5%	15.7%
524 Insurance Carriers and Related Activities	13.7%	13.9%
5415 Computer Systems Design and Related Services	5.5%	6.2%
622 Hospitals	4.7%	4.6%
5613 Employment Services	n	n

15-1199 Computer Occupations, All Other



All computer occupations not listed separately. *Example: Computer Lab Technician*

Training Category: Bachelor's | none | none

2017 Average Wage:	\$42.31
2016 Estimated Employment:	646
2026 Projected Employment:	712
Growth Rate, 2016-2026:	10.2%
Annual Openings:	52

Industry	2016 Share	2026 Share
5415 Computer Systems Design and Related Services	14.7%	16.3%
Federal Government, Excluding Post Office	12.5%	11.5%
511 Publishing Industries (except Internet)	12.2%	12.1%
622 Hospitals	9.3%	8.9%
551 Management of Companies and Enterprises	8.4%	8.3%
524 Insurance Carriers and Related Activities	7.4%	7.2%

15-2011 Actuaries



Analyze statistical data, such as mortality, accident, sickness, disability, and retirement rates and construct probability tables to forecast risk and liability for payment of future benefits. May ascertain premium rates required and cash reserves necessary to ensure payment of future benefits.
Example: Actuarial Mathematician

Training Category: Bachelor's | none | Long OJT

2017 Average Wage:	\$52.22
2016 Estimated Employment:	103
2026 Projected Employment:	123
Growth Rate, 2016-2026:	19.4%
Annual Openings:	8

Industry	2016 Share	2026 Share
524 Insurance Carriers and Related Activities	92.2%	90.2%
Self-employed Workers	n	n
5416 Management and Technical Consulting Services	n	n

15-2021 Mathematicians



Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve or direct solutions to problems in various fields by mathematical methods. *Example: Cryptographer*

Training Category: Master's | none | none

2017 Average Wage:	n/a
2016 Estimated Employment:	n
2026 Projected Employment:	n
Growth Rate, 2016-2026:	n
Annual Openings:	n

Industry	2016 Share	2026 Share
5413 Architectural and Engineering Services	n	n

15-2031 Operations Research Analysts



Formulate and apply mathematical modeling and other optimizing methods using a computer to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions. May develop related software, service, or products. Frequently concentrates on collecting and analyzing data and developing decision support software. May develop and supply optimal time, cost, or logistics networks for program evaluation, review, or implementation. *Examples: Method Consultant; Standards Analyst*

Training Category: Bachelor's | none | none

2017 Average Wage:	n/a
2016 Estimated Employment:	n
2026 Projected Employment:	n
Growth Rate, 2016-2026:	n
Annual Openings:	n

Industry	2016 Share	2026 Share
425 Wholesale Electronic Markets and Agents/Brokers	n	n
523 Financial Investment and Related Activities	n	n
524 Insurance Carriers and Related Activities	n	n
551 Management of Companies and Enterprises	n	n
6113 Colleges and Universities	n	n
622 Hospitals	n	n

15-2041 Statisticians



Engage in the development of mathematical theory or apply statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields, such as bio-statistics, agricultural statistics, business statistics, economic statistics, or other fields. Include mathematical statisticians. *Examples: Biometrician; Sampling Expert; Statistical Analyst*

Training Category: Master's | none | none

2017 Average Wage:	\$34.97
2016 Estimated Employment:	131
2026 Projected Employment:	176
Growth Rate, 2016-2026:	34.4%
Annual Openings:	15

Industry	2016 Share	2026 Share
5417 Scientific Research and Development Services	36.6%	35.8%
524 Insurance Carriers and Related Activities	32.8%	34.7%
6113 Colleges and Universities	13.7%	12.5%
State Government, excl. Education and Hospitals	3.8%	3.4%
Self-employed Workers	2.3%	2.3%
5416 Management and Technical Consulting Services	n	n

15-2091 Mathematical Technicians



Apply standardized mathematical formulas, principles, and methodology to technological problems in engineering and physical sciences in relation to specific industrial and research objectives, processes, equipment, and products. *Example: Harmonic Analyst*

Training Category: Bachelor's | none | none

2017 Average Wage:	n/a
2016 Estimated Employment:	n
2026 Projected Employment:	n
Growth Rate, 2016-2026:	n
Annual Openings:	n

Industry	2016 Share	2026 Share
5417 Scientific Research and Development Services	n	n
6113 Colleges and Universities	n	n

17-1011 Architects, Except Landscape and Naval



Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property. *Examples: Architectural Designer; Building Consultant; Site Planner*

Training Category: Bachelor's | none | Intern/Residency

2017 Average Wage:	\$40.13
2016 Estimated Employment:	221
2026 Projected Employment:	229
Growth Rate, 2016-2026:	3.6%
Annual Openings:	17

Industry	2016 Share	2026 Share
5413 Architectural and Engineering Services	67.9%	66.8%
Self-employed Workers	18.1%	18.8%
236 Construction of Buildings	n	n
321 Wood Product Manufacturing	n	n
5613 Employment Services	n	n
6113 Colleges and Universities	n	n