



Through
Career and Technical Education
MCPS Career Planning Guide



Table of Contents

- Agriculture Food and Natural Resources3
- Architecture and Construction6
- Arts, Audio/Video Technology and Communications9
- Business Management and Administration12
- Finance15
- Health Sciences18
- Hospitality and Tourism21
- Information Technology24
- Manufacturing26
- Marketing Sales and Service29
- Science Technology, Engineering and Mathematics32
- Transportation, Distribution and Logistics35

Employment Information from Virginia Department of Education website. For more information, click on the link below and click on the Career Cluster of interest on the right-side menu.

The screenshot shows the Virginia Department of Education website. The main content area is titled 'CAREER & TECHNICAL EDUCATION' and features a 'News & Announcements' section with a link to 'Distribution of the R U "College and Career" Ready Magazine'. Below this is a 'Career Clusters' section with an overview and resources. On the right side, there is a vertical menu titled 'Career Clusters:' listing 16 clusters: Agriculture, Food & Natural Resources; Architecture & Construction; Arts, AV Technology & Communications; Business Management & Administration; Education & Training; Finance; Government & Public Administration; Health Science; Hospitality & Tourism; Human Services; Information Technology; Law, Public Safety, Corrections & Security; Manufacturing; Marketing; Science, Technology, Engineering & Mathematics; Transportation, Distribution & Logistics. A green box highlights the 'Virginia's 16 Career Clusters' link in this menu, with an arrow pointing to the right. Below the menu, there is a section titled 'You May Also Be Interested In:' with links to 'Virginia Advisory Committee for Career & Technical Education' and 'Carl D. Perkins Career & Technical Education Act'.

http://www.doe.virginia.gov/instruction/career_technical/career_clusters/index.shtml

Agriculture Food and Natural Resources

What type of work is involved in the Agriculture Food and Natural Resources cluster?

The production, processing, marketing, distribution, financing and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

What are *Agriculture Food and Natural Resources* Pathways?

Agriculture Education

What should you think about when considering a career in the *Agriculture Food and Natural Resources* cluster?

Do you....

- like gardening and farming?
- like working with and caring for animals?
- work independently?
- care about preserving nature and the environment?

If you answered YES to most of these questions, a career in the *Agriculture Food and Natural Resources* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Landscaping and Groundskeeping Workers	\$23,190	36,600	High School diploma	32,489
Farmworkers and Laborers, Crops	\$21,130	20,130	High School diploma	24,131
Landscaping Supervisors	\$43,650	7,368	High School diploma & work experience	6,452
Veterinary Assistants	\$25,660	4,611	Some College; Associate degree	3,531
Environmental Scientists and Specialists	\$73,780	3,899	Bachelor's degree or more	3,416
Farmworkers, Animals	\$25,170	3,662	High School diploma	3,912
Water Treatment Plant Operators	\$37,810	3,615	High School diploma & training; Certification	3,179
Veterinarians	\$89,550	3,254	Bachelor's degree or more	2,406
Environmental Engineers	\$96,350	2,926	Bachelor's degree or more	2,482
Veterinary Technologists and Technicians	\$36,940	2,230	Some College; Associate degree	1,424
Farming, Fishing, and Forestry Supervisors	\$41,700	1,849	High School diploma & work experience	1,991
Biological Technicians	\$38,450	1,329	Bachelor's degree or more	1,086
Natural Sciences Managers	\$126,240	1,305	Bachelor's degree or	1,279

			more & work experience	
Environmental Science Technicians	\$43,230	807	Bachelor's degree or more & training; Certification	693
Geoscientists	\$89,450	616	Bachelor's degree or more	545
Environmental Engineering Technicians	\$42,130	537	Some College; Associate degree	440
Conservation Scientists	\$60,340	491	Bachelor's degree or more	432
Forest and Conservation Technicians	\$36,710	379	Bachelor's degree or more	359
Agricultural and Food Science Technicians	\$34,380	226	Bachelor's degree or more	237
Soil and Plant Scientists	\$53,910	192	Bachelor's degree or more	193

[Return to Table of Contents](#)

Architecture and Construction

What type of work is involved in the Architecture and Construction cluster?

Careers in the designing, planning, managing, building and maintaining of the built environment. Careers are responsible for the details of designing, constructing and equipping these buildings.

What are *Architecture and Construction* Pathways?

Technical Drawing and Design*

Engineering Drawing and Design*

Architectural Drawing and Design*

Advanced Drawing and Design*

Building Trades I & II*

Carpentry*

Heating, Ventilation, Air Conditioning, Refrigeration I & II*

Electricity I*

What should you think about when considering a career in the *Architecture and Construction* cluster?

Do you....

- like to build and design?
- like to draw?
- enjoy working with tools and equipment?
- have mechanical ability?
- have the ability to form mental images or objects or structures from drawings?

If you answered YES to most of these questions, a career in the *Architecture and Construction* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Carpenters	\$37,540	30,671	High School diploma & training; Certification	24,834
Construction Supervisors	\$57,900	26,162	High School diploma & work experience	21,411
Electricians	\$44,820	21,583	High School diploma & training; Certification	18,681
Plumbers, Pipefitters, and Steamfitters	\$43,530	15,122	High School diploma & training; Certification	12,982
Construction Managers	\$91,690	13,929	High School diploma & work experience	12,263
Construction Equipment Operators	\$35,990	11,386	High School diploma & training; Certification	9,525
Heating, AC, and Refrigeration Mechanics	\$42,680	10,809	High School diploma & training; Certification	9,169
Civil Engineers	\$78,140	10,495	Bachelor's degree or more	8,716
Cost Estimators	\$59,050	9,798	Some College; Associate degree	7,774
Sheet Metal Workers	\$41,160	6,198	High School diploma & training; Certification	5,442
Cement Masons and Concrete Finishers	\$34,570	5,650	High School diploma & training; Certification	4,484
Architects	\$77,990	3,984	Bachelor's degree or more & training; Certification	3,444

Brickmasons and Blockmasons	\$41,650	3,882	High School diploma and training; Certification	2,919
Electrical Power-Line Installers and Repairers	\$58,780	3,209	High School diploma and training; Certification	2,923
Civil Engineering Technicians	\$41,610	2,959	Some College; Associate degree	2,831
Structural Iron and Steel Workers	\$39,510	2,287	High School diploma & training; Certification	1,960
Interior Designers	\$53,760	1,605	Bachelor's degree or more & training; Certification	1,472
Surveyors	\$49,880	1,538	Bachelor's degree or more	1,377
Architectural and Civil Drafters	\$48,180	1,452	Some College; Associate degree	1,483
Landscape Architects	\$66,120	913	Bachelor's degree or more & training; Certification	800

[Return to Table of Contents](#)

Arts, Audio/Video Technology and Communications

What type of work is involved in the Arts, Audio/Video Technology and Communications cluster?

The designing, producing, exhibiting, performing, writing and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

What are *Arts, Audio/Video Technology and Communications* Pathways?

TV and Media Production I

TV and Media Production II

Digital Visualization

What should you think about when considering a career in the *Arts, Audio/Video Technology and Communications* cluster?

Do you....

- like art, music, drama and other creative interests?
- have a need for individualistic expression?
- like to display your imagination through artistic, literary, musical or visual abilities?
- enjoy being creative, flexible, innovative or imaginative?
- value creative communication and expression of ideas, emotions or sentiments?

If you answered YES to most of these questions, a career in the *Arts, Audio/Video Technology and Communications* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Graphic Designers	\$51,780	7,744	Bachelor's degree or more	6,943
Telecommunications Line Installers	\$61,600	6,290	Some College; Associate degree & training; Certification	6,131
Printing Press Operators	\$34,140	6,189	High School diploma & training; Certification	5,669
Telecommunications Equipment Installers	\$56,620	5,284	Some College; Associate degree & training; Certification	5,669
Writers and Authors	\$59,080	4,210	Bachelor's degree or more & training; Certification	3,977
Editors	\$56,650	4,063	Bachelor's degree or more & work experience	3,776
Technical Writers	\$72,970	3,832	Bachelor's degree or more & work experience	3,085
Photographers	\$31,470	3,485	Bachelor's degree or more & training; Certification	2,955
Producers and Directors	\$60,370	2,032	Bachelor's degree or more & work experience	1,889
Print Binding and Finishing Workers	\$28,390	1,948	High School diploma	1,844

Audio and Video Equipment Technicians	\$37,660	1,754	Some College; Associate degree & training; Certification	1,480
Art Directors	Data unavailable from BLS	1,603	Bachelor's degree or more & work experience	1,535
Broadcast Technicians	Data unavailable from BLS	1,430	Some College; Associate degree	1,330
Multimedia Artists and Animators	\$56,440	1,331	Bachelor's degree or more and training; Certification	1,152
Prepress Technicians and Workers	\$37,740	904	High School diploma	1,030
Reporters and Correspondents	Data unavailable from BLS	893	Bachelor's degree or more	962
Commercial and Industrial Designers	\$45,280	604	Bachelor's degree or more	587
Desktop Publishers	\$37,170	531	Some college; Associate degree	532
Film and Video Editors	\$54,530	400	Bachelor's degree or more & work experience	383
Proofreaders and Copy Markers	\$33,400	388	Bachelor's degree or more & training; Certification	391

[Return to Table of Contents](#)

Business Management and Administration

What type of work is involved in the Business Management and Administration cluster?

Encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations.

What are *Business Management and Administration* Pathways?

Accounting

Business Law

Computer Information Systems

Advanced Computer Information Systems

Principles of Business and Marketing Entrepreneurship I

What should you think about when considering a career in the *Business Management and Administration* cluster?

Do you....

- like well-defined tasks?
- like a predictable work setting?
- perform work tasks to meet standards of accuracy?
- like making decisions?
- like initiating and carrying out projects?

If you answered YES to most of these questions, a career in the Business Management and Administration cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Office Clerks	\$28,590	96,004	Some college; Associate degree	88,065
Management Analysts	\$92,140	65,224	Bachelor's degree or more and work experience	53,611
General and Operations Managers	\$114,030	63,704	Bachelor's degree or more & work experience	55,379
Customer Service Representatives	\$31,170	57,853	Some college; Associate degree	50,697
Bookkeeping Clerks	\$35,900	57,349	Some college; Associate degree & training; Certification	49,952
Supervisors of Office Workers	\$50,510	46,207	Some college; Associate degree & work experience	40,098
Secretaries and Administrative Assistants	\$33,590	42,901	Some college; Associate degree	37,326
Receptionists	\$26,840	36,486	High School diploma	30,182
Executive Secretaries and Assistants	\$49,830	21,573	Some college; Associate degree & work experience	21,250
Shipping, Receiving, and Traffic Clerks	\$29,300	14,782	High School diploma	14,489
Training and Development Specialists	\$64,290	12,548	Bachelor's degree or more	10,012
Operations Research Analysts	\$93,470	6,546	Bachelor's degree or more	4,789

Administrative Services Managers	\$85,380	5,472	Some college; Associate degree & work experience	4,748
Human Resources Assistants	\$37,830	4,319	Some college; Associate degree	4,430
Payroll and Timekeeping Clerks	\$41,220	4,276	Some college; Associate degree & training; Certification	3,780
File Clerks	\$26,230	3,446	Some college; Associate degree	3,456
Human Resources Managers	\$118,640	3,405	Bachelor's degree or more & work experience	2,946
Compensation and Job Analysis Specialists	\$60,390	2,725	Bachelor's degree or more	2,428
Procurement Clerks	\$41,120	2,292	Some college; Associate degree & training; Certification	2,280
Training and Development Managers	\$109,680	1,342	Bachelor's degree or more & work experience	1,155

[Return to Table of Contents](#)

Finance

What type of work is involved in the Finance cluster?

The planning, services for financial and investment planning, banking, insurance and business financial management.

What are *Finance* Pathways?

Accounting

Business Law

Business Management

Principles of Business and Marketing

Economics and Personal Finance

What should you think about when considering a career in the *Finance* cluster?

Do you....

- like working with facts, numbers and data?
- work independently?
- speak and write clearly and accurately?
- possess good math skills or have a head for numbers?
- like contact with all kinds of people?

If you answered YES to most of these questions, a career in the *Finance* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Accountants and Auditors	\$71,120	48,788	Bachelor's degree or more	42,022
Financial Managers	\$126,430	16,141	Bachelor's degree or more & work experience	14,750
Tellers	\$27,220	13,258	Some college; Associate degree	12,899
Financial Analysts	\$81,340	11,354	Bachelor's degree or more	9,434
Insurance Sales Agents	\$44,040	11,099	Bachelor's degree or more & training; Certification	9,841
Bill and Account Collectors	\$32,880	10,414	Some college; Associate degree & training; Certification	9,161
Loan Officers	\$61,170	7,740	Bachelor's degree or more & training; Certification	7,086
Personal Financial Advisors	\$81,120	6,910	Bachelor's degree or more	5,071
Financial Services Sales Agents	\$57,610	6,247	Bachelor's degree or more & training; Certification	5,382
Loan Interviewers and Clerks	\$38,260	5,615	Some college; Associate degree	5,142
Insurance Clerks	\$34,890	5,314	Some college; Associate degree & training; Certification	4,821

Claims Adjusters and Investigators	\$59,420	4,362	Bachelor's degree or more & training; Certification	4,141
Budget Analysts	\$80,710	3,524	Bachelor's degree or more	3,111
Tax Preparers	\$39,230	3,097	Bachelor's degree or more & training; Certification	2,750
Credit Analysts	\$68,770	1,791	Bachelor's degree or more	1,636
Insurance Underwriters	\$63,590	1,706	Bachelor's degree or more & training; Certification	1,793
Brokerage Clerks	\$38,810	1,526	Some college; Associate degree & training; Certification	1,371
Credit Authorizers	\$28,360	925	Some college; Associate degree	960
Insurance Appraisers, Auto Damage	\$59,830	210	Bachelor's degree or more & training; Certification	215

[Return to Table of Contents](#)

Health Sciences

What type of work is involved in the Health Sciences cluster?

Planning, managing and providing therapeutic services, diagnostic services, health informatics, support services and biotechnology research and development.

What are *Health Sciences* Pathways?

Introduction to Health and Medical Sciences

Medical Terminology

Health Assisting Careers I

Health Assisting Careers II

What should you think about when considering a career in the *Health Sciences* cluster?

Do you....

- have an aptitude in science?
- have a curiosity about how things work?
- have the ability to gather and analyze data to solve problems?
- have a desire to help people resolve medical and health related concerns?
- have a concern for physical and mental fitness?

If you answered YES to most of these questions, a career in the *Health Sciences* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Registered Nurses	\$62,750	66,990	Bachelor's degree or more	59,445
Licensed Practical Nurses	\$39,390	27,715	Some college; Associate degree	21,876
Home Health Aides	\$20,600	15,248	High School diploma	10,378
Medical Assistants	\$30,400	14,625	Some college; Associate degree & training; Certification	10,456
Dental Assistants	\$34,950	11,612	Some college; Associate degree	8,455
Pharmacy Technicians	\$28,240	10,629	Some college; Associate degree & training; Certification	8,919
Pharmacists	\$122,170	8,242	Bachelor's degree or more & training; Certification	7,364
Medical and Health Services Managers	\$90,280	8,187	Bachelor's degree or more	6,759
Physical Therapists	\$81,410	7,593	Bachelor's degree or more	5,130
EMTs and Paramedics	\$30,180	6,564	Some college; Associate degree	4,449
Dental Hygienists	\$81,110	6,356	Some college; Associate degree	4,295
Medical Laboratory Technicians	\$37,340	5,260	Bachelor's degree or more	3,825
Medical Laboratory Technologists	\$54,570	4,952	Bachelor's degree or more	4,131
Medical Records Technicians	\$34,920	4,488	Some college; Associate degree	3,697

Dentists	\$158,680	4,433	Bachelor's degree or more & training; Certification	3,457
Psychiatric Technicians	\$25,230	4,318	Some college; Associate degree	4,368
Speech-Language Pathologists	\$74,320	3,594	Bachelor's degree or more	2,878
Occupational Therapists	\$81,310	3,292	Bachelor's degree or more	2,479
Physician Assistants	\$87,170	3,097	Bachelor's degree or more & training; Certification	2,090
Physical Therapist Assistants	\$55,940	2,945	Some college; Associate degree	1,901
Respiratory Therapists	\$56,590	2,538	Bachelor's degree or more	2,328

[Return to Table of Contents](#)

Hospitality and Tourism

What type of work is involved in the Hospitality and Tourism cluster?

The management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services?

What are *Hospitality and Tourism* Pathways?

Introduction to Culinary Arts*

Culinary Arts I*

Culinary Arts II*

Culinary Arts Specialization*

What should you think about when considering a career in the *Hospitality and Tourism* cluster?

Do you....

- like to cook and create different types of food?
- like to travel and enjoy learning about various locations?
- like to meet and help all kinds of people?
- like to plan events?

If you answered YES to most of these questions, a career in the *Hospitality and Tourism* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Cooks, Restaurant	\$22,650	33,803	High School diploma & training; Certification & work experience	28,232
Supervisors of Food Service Workers	\$31,940	28,210	High School diploma & work experience	23,921
Recreation Workers	\$21,820	14,830	Bachelor's degree or more	12,626
Hosts and Hostesses, Restaurant and Related	\$18,540	11,242	High School diploma	10,243
Supervisors of Housekeeping Workers	\$33,850	10,068	High School diploma & work experience	8,876
Bartenders	\$25,910	9,786	Some college; Associate degree	8,351
Cooks, Institution and Cafeteria	\$23,490	9,618	High School diploma	8,310
Cooks, Fast Food	\$18,610	8,094	High School diploma	7,728
Hotel, Motel, and Resort Desk Clerks	\$19,810	7,077	High School diploma	6,709
Amusement and Recreation Attendants	\$18,320	6,779	High School diploma	5,891
Meeting, Convention, and Event Planners	\$55,310	6,058	Bachelor's degree or more & work experience	4,204
Food Service Managers	\$56,290	5,269	High School diploma & work experience	5,004
Bakers	\$24,770	3,203	High School diploma & training; Certification	2,879

Chefs and Head Cooks	\$39,200	3,083	High School diploma & work experience	2,844
Tour Guides and Escorts	\$22,590	1,917	Bachelor's degree or more & training; Certification	1,781
Travel Agents	\$42,140	1,648	Some college; Associate degree & training; Certification	1,899
Lodging Managers	\$57,870	1,462	Bachelor's degree or more & work experience	1,503
Concierges	\$28,330	1,595	High School diploma & training; Certification	1,321

[Return to Table of Contents](#)

Information Technology

What type of work is involved in the Information Technology cluster?

Entry-level, technical, and profession careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services.

What are *Information Technology* Pathways?

Computer Information Systems

Advanced Computer Information Systems

Design, Multi-Media and Web Technologies

Information Technology (IT) Fundamentals

What should you think about when considering a career in the *Information Technology* cluster?

Do you....

- have an aptitude in working with computers?
- have a passion for technology?
- have a curiosity about how things work?
- have an interest in how software is designed and implemented?
- like to play video games and online games?

If you answered YES to most of these questions, a career in the *Information Technology* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Software Developers, Applications	\$102,890	43,914	Bachelor's degree or more	33,373
Software Developers, Systems Software	\$110,800	41,871	Bachelor's degree or more	31,321
Computer Systems Analysts	\$95,280	40,198	Bachelor's degree or more	31,016
Network and Computer Systems Administrators	\$87,210	24,272	Bachelor's degree or more	20,146
Computer Support Specialists	\$50,460	23,048	Bachelor's degree or more	18,404
Computer Programmers	\$75,900	11,531	Bachelor's degree or more	10,331
Computer Occupations, All Other	\$97,330	9,930	Bachelor's degree or more	10,295
Database Administrators	\$91,580	7,764	Bachelor's degree or more & work experience	6,215
Technical Writers	\$72,970	3,832	Bachelor's degree or more & work experience	3,085
Computer and Information Research Scientists	\$112,770	2,219	Bachelor's degree or more	1,901
Computer Hardware Engineers	\$115,640	2,320	Bachelor's degree or more	1,982
Multimedia Artists and Animators	\$56,440	1,331	Bachelor's degree or more & training; Certification	1,152

[Return to Table of Contents](#)

Manufacturing

What type of work is involved in the Manufacturing cluster?

Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

What are *Manufacturing Pathways*?

Advanced Film Program (1-2 years)*

What should you think about when considering a career in the *Manufacturing* cluster?

Do you....

- enjoy working with tools and equipment?
- have mechanical ability?
- have manual dexterity and hand-eye coordination?
- have an understanding of cause and effect?
- like initiating and carrying out projects?

If you answered YES to most of these questions, a career in the *Manufacturing* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Maintenance and Repair Workers	\$36,160	36,047	High School diploma & training; Certification	32,438
Production Supervisors	\$57,790	14,003	High School diploma & work experience	13,845
Purchasing Agents	\$70,800	12,858	Bachelor's degree or more & training; Certification	12,178
Team Assemblers	\$26,300	10,736	High School diploma & training; Certification	10,451
Welders, Cutters, Solderers, and Brazers	\$39,230	9,901	High School diploma & training; Certification & work experience	9,133
Industrial Machinery Mechanics	\$44,150	9,685	High School diploma & training; Certification	8,029
Inspectors, Testers, and Weighers	\$33,580	8,757	High School diploma & training; Certification	8,207
Production, Planning, and Expediting Clerks	\$47,450	8,516	Some college; Associate degree & training; Certification	7,865
Machinists	\$42,370	8,284	High School diploma & training; Certification	7,459
Electrical and Electronics Engineering Technicians	\$63,010	5,458	Some college; Associate degree	5,033

Electrical and Electronic Equipment Assemblers	\$30,290	3,584	High School diploma	3,870
Industrial Production Managers	\$102,300	2,645	Bachelor's degree or more & work experience	2,648
Mechanical Drafters	\$52,670	2,594	Some college; Associate degree	2,648
Maintenance Workers, Machinery	\$45,060	2,529	High School diploma & training; Certification	2,196
Cabinetmakers and Bench Carpenters	\$28,790	2,375	High School diploma & training; Certification	2,514
Industrial Engineering Technicians	\$51,320	1,292	Some college; Associate degree	1,222
Chemical Technicians	\$40,860	1,290	Bachelor's degree or more	1,166
Tool and Die Makers	\$48,760	1,052	Some college; Associate degree & training; Certification	1,040
Electromechanical Equipment Assemblers	\$32,390	1,025	High School diploma	1,109
Power Plant Operators	\$44,250	520	Some college; Associate degree & training; Certification	583

[Return to Table of Contents](#)

Marketing Sales and Service

What type of work is involved in the Marketing Sales and Service cluster?

Planning, managing and performing marketing activities to reach organizational objectives.

What are *Marketing Sales and Service* Pathways?

Principles of Business and Marketing Entrepreneurship I

What should you think about when considering a career in the *Marketing Sales and Service* cluster?

Do you....

- speak and write clearly and accurately?
- have a need for individualistic expression?
- enjoy being an original thinker?
- prefer creative and expressive interaction with people?

If you answered YES to most of these questions, a career in the *Marketing Sales and Service* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Retail Salespersons	\$20,470	138,054	High School diploma	125,224
Cashiers	\$18,810	96,511	High School diploma	91,899
Retail Sales Supervisors	\$37,960	45,853	High School diploma & work experience	43,510
Sales Representatives, Except Tech/Scientific	\$55,530	33,338	Bachelor's degree or more & training; Certification	30,260
Real Estate Sales Agents	\$44,190	22,960	Bachelor's degree or more & training; Certification	20,378
Market Research Analysts and Specialists	\$63,650	19,893	Bachelor's degree or more	14,346
Driver/Sales Workers	\$21,520	15,078	High School diploma	13,667
Supervisors of Non-Retail Sales Workers	\$79,450	10,510	Bachelor's degree or more & work experience	10,396
Counter and Rental Clerks	\$27,170	10,383	High School diploma	9,572
Sales Representatives, Tech/Scientific	\$83,500	9,549	Bachelor's degree or more & training; Certification	8,231
Public Relations Specialists	\$64,540	8,848	Bachelor's degree or more & training; Certification	7,463
Sales Managers	\$121,680	6,866	Bachelor's degree or more & work experience	6,193
Telemarketers	\$21,170	5,964	High School diploma	5,506
Marketing Managers	\$142,730	5,431	Bachelor's degree or more & work experience	4,584
Advertising Sales Agents	\$47,380	3,245	Bachelor's degree or	3,111

			more & training; Certification	
Real Estate Brokers	\$49,350	3,041	Bachelor's degree or more & work experience	2,621
Wholesale and Retail Buyers	\$56,330	2,975	Some college; Associate degree & training; Certification	2,815
Merchandise Displayers	\$28,850	2,676	Some college; Associate degree & training; Certification	2,369
Public Relations and Fundraising Managers	\$124,990	1,795	Bachelor's degree or more & work experience	1,552
Advertising and Promotions Managers	\$88,230	430	Bachelor's degree or more & work experience	393

[Return to Table of Contents](#)

Science Technology, Engineering and Mathematics

What type of work is involved in the Science Technology, Engineering and Mathematics cluster?

The planning, managing, and providing scientific research and professional and technical service (e.g., physical science, social science, engineering) including laboratory and testing services and research and development services.

What are *Science Technology, Engineering and Mathematics* Pathways?

Engineering Explorations I

Engineering Analysis and Applications II

Technical Drawing and Design*

Engineering Drawing and Design*

Architectural Drawing and Design*

Advanced Drawing and Design*

What should you think about when considering a career in the *Science Technology, Engineering and Mathematics* cluster?

Do you....

- have problem solving and math skills?
- have an aptitude in science?
- like to draw and design?
- have the ability to gather and analyze data to solve problems?
- have an understanding of cause and effect?

If you answered YES to most of these questions, a career in the *Science Technology, Engineering and Mathematics* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Civil Engineers	\$78,140	10,495	Bachelor's degree or more	8,716
Mechanical Engineers	\$89,460	8,504	Bachelor's degree or more	7,902
Electrical Engineers	\$89,330	6,865	Bachelor's degree or more	6,218
Architectural and Engineering Managers	\$136,770	6,660	Bachelor's degree or more & work experience	5,833
Electronics Engineers	\$102,430	5,636	Bachelor's degree or more	5,181
Aerospace Engineers	\$122,890	5,222	Bachelor's degree or more	4,320
Industrial Engineers	\$84,290	4,243	Bachelor's degree or more	3,873
Nuclear Engineers	\$87,160	2,434	Bachelor's degree or more	2,372
Computer Hardware Engineers	\$115,640	2,320	Bachelor's degree or more	1,982
Computer Scientists	\$112,770	2,219	Bachelor's degree or more	1,901
Biological Technicians	\$38,450	1,329	Bachelor's degree or more	1,086
Chemical Engineers	\$111,660	1,275	Bachelor's degree or more	1,278
Petroleum Engineers	\$133,070	1,101	Bachelor's degree or more	1,145
Marine Engineers	\$82,570	1,096	Bachelor's degree or more	921

Biochemists and Biophysicists	\$64,890	737	Bachelor's degree or more	580
Geoscientists	\$89,450	616	Bachelor's degree or more	545
Health and Safety Engineers	\$85,050	580	Bachelor's degree or more	529
Environmental Engineering Technicians	\$42,130	537	Some college; Associate degree	440
Materials Engineers	\$90,700	448	Bachelor's degree or more	430
Microbiologists	\$60,380	417	Bachelor's degree or more	375

[Return to Table of Contents](#)

Transportation, Distribution and Logistics

What type of work is involved in the Transportation, Distribution and Logistics cluster?

The planning, management and movement of people, materials and goods by road, pipeline, air, rail and water and related support services dealing with infrastructure, logistics, equipment and facilities.

What are *Transportation, Distribution and Logistics* Pathways?

Automotive Technology I & II*

Motor Sports I & II*

What should you think about when considering a career in the *Transportation, Distribution and Logistics* cluster?

Do you....

- have mechanical ability?
- enjoy working on cars and engines?
- enjoy working with tools, machines and equipment?
- prefer to work alone?
- like well-defined tasks?

If you answered YES to most of these questions, a career in the *Transportation, Distribution and Logistics* cluster may be for you!

Selected Occupation(s)	2013 Median Wage	2022 Projected Employment	Predominant Level of Education	Employed in Virginia 2012
Heavy and Tractor-Trailer Truck Drivers	\$36,570	43,398	High School diploma & work experience	39,719
Automotive Service Technicians	\$39,540	25,170	High School diploma & training; Certification	22,653
Light Truck or Delivery Services Drivers	\$29,830	20,202	High School diploma	19,386
Bus Drivers, School or Special Client	\$26,170	18,121	High School diploma & training; Certification	17,262
Billing and Posting Clerks	\$35,120	15,553	Some college; Associate degree	12,835
Logisticians	\$80,350	8,543	Bachelor's degree or more & work experience	6,675
Diesel Engine Specialists	\$41,130	7,952	High School diploma & training; Certification	7,238
Supervisors of Transportation Operators	\$55,560	6,149	High School diploma & work experience	5,624
Dispatchers	\$34,520	4,650	Some college; Associate degree & training; Certification	4,185
Bus Drivers	\$34,780	4,205	High School diploma & training; Certification	3,638
Mobile Heavy Equipment Mechanics	\$44,900	3,541	High School diploma & training; Certification	3,212
Airline Pilots, Copilots, and Flight Engineers	\$102,800	2,841	Bachelor's degree or more & training; Certification & work experience	2,808
Transportation and Distribution Managers	\$92,880	2,438	High School diploma & work experience	2,338

Tire Repairers and Changers	\$26,120	2,273	High School diploma & training; Certification	2,022
Captains, Mates, and Pilots of Water Vessels	\$67,830	2,098	High School diploma	1,880
Cargo and Freight Agents	\$32,020	1,943	Some college; Associate degree	1,785
Aircraft Mechanics and Service Technicians	\$53,640	1,879	Some college; Associate degree	1,844
Couriers and Messengers	\$27,810	1,742	High School diploma	1,984
Ship Engineers	\$57,130	1,718	Some college; Associate degree	1,539
Air Traffic Controllers	\$140,290	1,325	Some college; Associate degree & training; Certification	1,240

[Return to Table of Contents](#)