

Career Watch 2011 Arkansas

STEM *Science, Technology, Engineering & Mathematics*

- » Occupations
- » Interviews
- » Resumes
- » Colleges
- » Financial Aid
- » Scholarships

It's not a job, it's a career.
www.careerwatch.org

Jobs for People. People for Jobs.
DWS
Department of
WORKFORCE Services



From the Governor

DEAR STUDENTS:

Time passes quickly, and soon, you will graduate from high school. You must decide about furthering your schooling or choosing a satisfying career. I hope that you will do something great with your life, that you will achieve success, and that you will seize opportunity when it comes your way.

While I want Arkansas students to achieve, I also want you to find success in fields that inspire you and lead to satisfying careers. We strive to make every educational opportunity accessible to all of our students, but those efforts will ultimately fall short unless you supply the passion and drive to succeed. This is especially true in Science, Technology, Engineering, and Math, what we call the STEM subjects. We know that STEM education is vital in preparing students for 21st-century jobs in an increasingly high-tech economy. High school students who prepare early, by becoming involved in the STEM career clusters, will develop an invaluable head start in securing employment in the high-skill, high-wage, high-demand jobs that are part and parcel of the technological explosion of the times in which we live.

For high school students, it's never too early to begin preparing for a career and looking at a wide variety of options. STEM-cluster education provides that preparation and opens up a world of career possibilities, while giving STEM students a distinct advantage in the workforce. There are many career areas that have unlimited growth potential in a technology-driven economy, including engineering, nanotechnology, biotechnology, aerospace, precision agriculture, and computer technology.

Living up to your potential requires an enormous amount of energy, determination, patience, and sacrifice. In choosing your future occupation, seek the advice of guidance counselors and professionals you trust, and remember that the Arkansas Department of Workforce Services is ready and willing to lend their expertise. I want you to be excited about the possibilities you face. Your ideas, your efforts, and your decisions will collectively shape our tomorrow. Best wishes for a successful future.

Sincerely,

Mike Beebe

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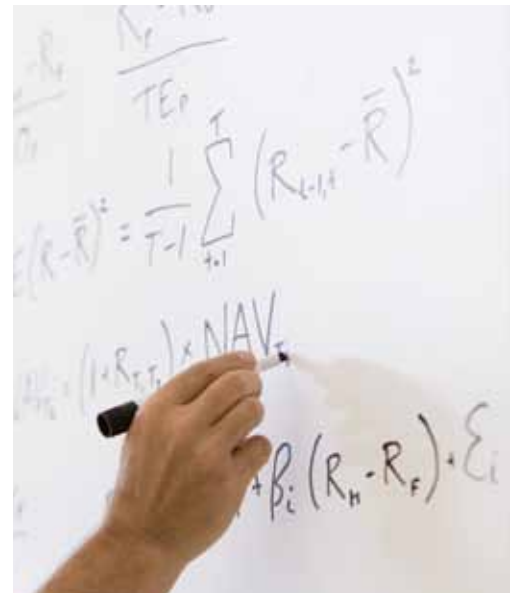
Career Watch Arkansas

STEM - Science, Technology, Engineering & Mathematics

Science & Mathematics

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

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A goal of DWS is to improve, through coordination and standardization, the development, quality and use of occupational information for career decision-making, program planning and economic development.

DWS coordinates information to meet the needs of individuals, especially youth, who are making career decisions, while also providing information to support economic development issues.

DWS is extremely interested in making this publication as useful and informative as possible. Please send your comments, suggestions, ideas or additional copy requests to:

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What do you want to do for a living?



ARKOSCAR and My Next Move can help you find out!
www.arkoscar.org • www.mynextmove.org

ARKOSCAR is an Internet-based system that allows you to explore your career options by answering simple questions about your interests and skills.

My Next Move is an interactive tool for job seekers and students to learn more about their career options. The site has tasks, skills, salary information, and more for over 900 different careers.

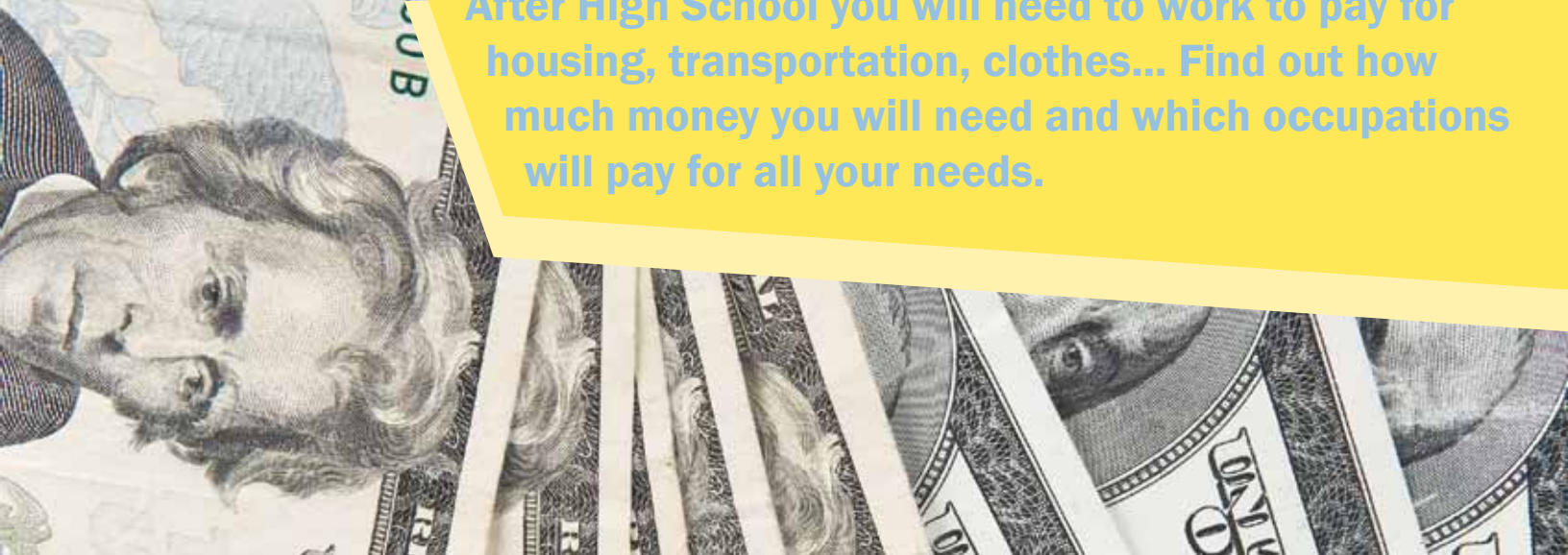
Discover your options!

Real-Life Arkansas

A "Lifestyle Budget Calculator"



After High School you will need to work to pay for housing, transportation, clothes... Find out how much money you will need and which occupations will pay for all your needs.



Option #1:

The whole nine yards

Pick your city, then decide what you want to spend on housing, transportation, food, entertainment, and everything in between. We'll tell you what jobs will feed your appetite and how to get them.

Option #2:

Show me the money

Tell us what you want your yearly salary to be and we'll tell you which jobs will pay that much. We'll even tell you what sort of education and training you need to get there and how the job market is.

Option #3:

The bizarro budget

If you're lucky enough to already know what you want to do with your life, we'll tell you how much it will pay so you can work backward to create a budget using those numbers.

It's your life...do the math!
www.real-life.arkansas.gov



The Road to College

8th & 9th

Start thinking about career possibilities and exploring occupations that meet your interests and skills.

Study hard and earn good grades to prepare academically for college.

Become involved in extra curricular activities that interest you.

Look for summer jobs or volunteer work that will expand your experience and skills.

10th

Research possible colleges and universities that match your career goals.

Prepare for standardized testing by taking the PSAT.

Visit with your school guidance counselor to discuss your course selection to make sure it meets college entrance requirements.

Visit with your school guidance counselor about possible career paths.

11th

Request information from colleges you are interested in attending. Find out admission requirements, degrees and majors offered, financial aid, scholarships, and student housing information.

Plan a campus visit, and attend local college fairs.

Take the SAT or ACT.

Apply to your top college choices; keep track of the admissions deadlines.

12th

Complete the Free Application for Federal Student Aid to see if you qualify for financial aid, scholarships, and grants after January 1 of your senior year.

Complete Arkansas' online YOUniversal application between September 1 and June 1 to apply for state scholarships and grants.

Attend spring or summer orientation programs for incoming college freshmen.



Education Pays

Less than a high school diploma

\$444

High-school graduate

\$626

Some college, no degree*

\$712

Associate degree

\$767

Bachelor's degree

\$1,038

Master's degree

\$1,272

Professional degree

\$1,610

Doctoral degree

\$1,550

Continuing your education after high school pays off. College graduates over the age of 25 with a bachelor's degree earn **\$412 more a week** than a high school graduate.

Median weekly wages in 2010. Data are 2010 national annual averages for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: Bureau of Labor Statistics, Current Population Survey.

* Earnings for a person having any post-secondary education that leads to certification or proficiency is not reported in this data. Any education past high school gives you the potential to have higher earnings.

Get Attention!

A Resume Guide

There's no telling just how many resumes an employer might get in a day for a job. It's the first impression you make to a prospective employer, and it only takes 10 to 15 seconds to determine if you will be called for an interview.

WRITE A GREAT RESUME

»Do your homework.

Make a list of your education, skills, qualifications, work experience, and extra curricular activities before writing your resume.

»Have things covered.

Always include a cover letter with your resume. The impact of a cover letter is a lot like that of a resume – a good one can get you in the door, and a bad one can get you to the bottom of the stack. So use it to make yourself stand out, and don't just rehash your resume. Tell the employer what makes you better suited for the job than your competition and how your skills can help the company succeed.

»Build your resume.

Place your name, full mailing address, phone numbers, and e-mail address in a block format at the top of the page.

The type of resume you use depends upon your past experiences. If you are still in school or about to graduate, place your education with relevant class work in reverse chronological order. If you have more work experience, list it first, using action verbs to describe your contribution to the success of the company or organization.

types of resumes

Chronological

The most common type of resume, it illustrates progress you have made toward your career objective through employment history. Your most recent work and educational experiences are listed first, followed by the next most recent experience. It is best to use this type of resume if you have demonstrated experience within your desired career field.

Functional

This type groups your work experience and skills by skill area or job function. This type is good to use to minimize gaps in employment history, while showcasing the work experience that is most important to your career objective. A functional resume works best for first-time job seekers or those changing careers.

For more information and examples, go to www.careerinfonet.org and click on "Resumes and Interviews."



Quick Tips

Keep the resume to one page.

Proofread and proofread again. Ask several people to proofread your resume and cover letter. Did you proofread?

Do not include personal information such as age, gender, marital status, race, height and weight.

Use a professional e-mail; `cutechick_03@yahoo.com` won't cut it. Create a new account just for this purpose if you need to.

No fancy fonts. Use a sans serif font such as Times, Arial, or Helvetica in 10 or 12 points, and don't use scripts or underlining. Use bold or italics if you need to highlight important items.

Use a good quality, heavy bond paper in white or off-white with matching 9 x 12 envelopes. Do not fold your resume and cover letter when mailing by snail mail.

Have a list of references ready, but make sure you have permission to use them.

Combination

A combination of the chronological and functional resumes, this type presents the knowledge, skills, and abilities gained from work in reverse chronological order. This format is best if you have a varied employment history or wish to include volunteer or internship experience.

The Department of Workforce Services provides a Pocket Resume, available in the back of this magazine.

Or, go to www.discover.arkansas.gov and click on "Employment" and scroll to the bottom of the page to download a printable PDF version.

Just fill in the information for easy reference while filling out job applications.

Get the Job!

The Interview

Your resume has caught the attention of a perspective employer, and you have an interview. What's the next step? Here are a few tips to help you to ace the interview.

» Dress Appropriately.

Wear clean, pressed, conservative clothes in neutral colors. Avoid loud make-up and jewelry.

» Be Well Groomed.

Have nails and hair neat, clean, and trimmed. Don't overdo your favorite perfume or cologne.

» Be On Time.

Know where you are going, allowing time for traffic and parking. Arriving late to the interview says a great deal about you. Keep your cell phone charged and have the interviewer's number handy in case circumstances are beyond your control, but turn it off before the interview.

» Be Professional.

Know the name, title, and the pronunciation of the interviewer's name. Give a firm handshake and maintain good eye contact. Don't talk too much about your personal life and don't bad-mouth former employers, you're there for a job interview.



What to take with you

Social Security card

Driver's license

Extra resumes and references

Paper and pen

Questions?

Don't just let the interviewer ask all the questions. In fact, they expect you to ask some! Have questions prepared to learn more about the position and the company.

- How soon are you looking to fill this position?
- What is the typical career path for this job?
- What are some of the biggest challenges facing this position, this department, or this organization?
- Is travel involved with this position?
- What are the performance expectations for this job?
- How frequently is performance evaluated?
- What kind of training and/or professional development programs do you have?

School? Work? Both?

Top 10 Occupations by Education Level

Different occupations need different types of training. Some require only on-the-job training, while others require an advanced degree. The jobs listed below are projected to be the top growing occupations by education level through 2012.

Work Experience/On-the-Job Training

- Cashiers
- Truck Drivers, Heavy and Tractor-Trailer
- Retail Salespersons
- Waiters and Waitresses
- Customer Service Representatives
- Laborers and Freight, Stock, and Material Movers, Hand
- Combined Food Preparation and Serving Workers, Including Fast Food
- Personal and Home Care Aides
- Office Clerks, General
- Team Assemblers



Associate Degree/Vocational Training

- Registered Nurses
- Licensed Practical and Licensed Vocational Nurses
- Nursing Aides, Orderlies, and Attendants
- Welders, Cutters, Solderers, and Brazers
- Computer Support Specialists
- Preschool Teachers, Except Special Education
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- Automotive Service Technicians and Mechanics
- Bus and Truck Mechanics and Diesel Engine Specialists
- Library Technicians



Bachelor's Degree or Higher

- Elementary School Teachers, Except Special Education
- Secondary School Teachers, Except Special and Vocational Education
- General and Operations Managers
- Middle School Teachers, Except Special and Vocational Education
- Accountants and Auditors
- Network Systems and Data Communications Analysts
- Computer Systems Analysts
- Pharmacists
- Employment, Recruitment, and Placement Specialists
- Management Analysts



Based on State of Arkansas' 2010-2012 Short-term Occupational Projections Net Growth

What's Hot...What's Not

Top 20 Occupations for Growth



Truck Drivers, Heavy and Tractor-Trailer
Personal and Home Care Aides
Customer Service Representatives
Registered Nurses
Combined Food Preparation and Serving Workers, Including Fast Food
Construction Laborers
Office Clerks, General
Elementary School Teachers, Except Special Education
Home Health Aides
Telemarketers
Nursing Aides, Orderlies, and Attendants
Bookkeeping, Accounting, and Auditing Clerks
Team Assemblers
Cooks, Fast Food
Accountants and Auditors
Secondary School Teachers, Except Special and Vocational Education
Licensed Practical and Licensed Vocational Nurses
Business Operations Specialists, All Other
Middle School Teachers, Except Special and Vocational Education
Teacher Assistants

Top 20 Occupations for Decline



Janitors and Cleaners, Except Maids and Housekeeping Cleaners
Maids and Housekeeping Cleaners
Cashiers
Meat, Poultry, and Fish Cutters and Trimmers
Machine Feeders and Offbearers
Logging Equipment Operators
Laborers and Freight, Stock, and Material Movers, Hand
Insurance Sales Agents
Lawyers
Real Estate Sales Agents
Information and Record Clerks, All Other
Postal Service Mail Sorters, Processors, and Processing Machine Operators
Real Estate Brokers
Insurance Claims and Policy Processing Clerks
Brickmasons and Blockmasons
Floral Designers
General and Operations Managers
File Clerks
Fallers
Order Clerks

Based on State of Arkansas' 2010-2012 Short-term Occupational Projections

Skills to Pay the Bills

They say everyone's good at something. But nowadays certain skills will put you on the fast track to a great job. Here's a quick rundown of the Top 10. And no, texting is not on the list.



» Reading Comprehension

Understanding written sentences and paragraphs in work-related documents.

» 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.

» Critical Thinking

Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

» Active Learning

Understanding the implications of new information for both current and future problem-solving and decision-making.

» Speaking

Talking to others to convey information effectively.

» Coordination

Adjusting actions in relation to others' actions.

» Instructing

Teaching others how to do something.

» Monitoring

Monitoring/assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

» Writing

Communicating effectively in writing as appropriate for the needs of the audience.

» Learning Strategies

Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.



STEM

Science & Mathematics

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

With a growing demand for technological advances and the need to compete on a global scale, a career in Science and Mathematics can give students the opportunity to use their curiosity, ability to think logically, and creative problem solving skills to help expand scientific frontiers, develop new products, and advance technological progress.

Preparation for a career in Science and Mathematics begins in high school, if not earlier. Students should take as many advanced math and science classes as possible and join clubs and other extra curricular activities while in school.

With a firm grasp of science and mathematics, occupations in this pathway can discover, invent, and create to make the world a better place.

A few occupations in this career pathway include Astronomers, Anthropologists, Conservation Scientists, Geographers, Hydrologists, Materials Scientists, Mathematicians, and Park Naturalists.

This career pathway employs more than 12,000 people in Arkansas. Employment in Science

and Mathematics occupations are expected to see continued growth over the next 10 years, with many new opportunities for job openings across the state. Many of these occupations will be high-tech, high-wage jobs that can provide career advancement.

Education and training for careers in Science and Mathematics is specialized. Most occupations require a Bachelor's Degree or even a more advanced education. Science technicians occupations usually require an Associate Degree for an entry-level job.

Some of the training and education programs include Biomedical Technology, Botany, Chemistry, Environmental Sciences, Geospatial Information Systems, Space & Planetary Sciences, and Zoology.

Some of the skills necessary for a career in Science and Mathematics include: Problem Solving and Critical Thinking, Information Technology Applications, Leadership and Teamwork, Ethics and Legal Responsibilities, and Communications.

Green Occupations

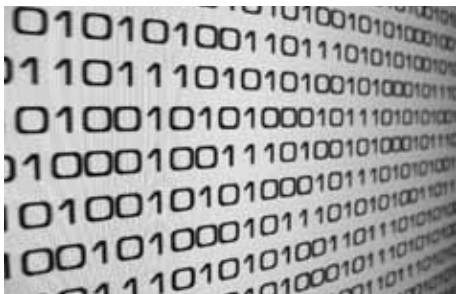
Occupations where environmental protection, preservation or improvement is central to the employee's work and where the environment benefits from specific job-related skills of the employees. This includes producing renewable energy, increasing energy efficiency, natural and sustainable product manufacturing, pollution protection and environmental cleanup, promoting education, compliance, and awareness of environmental issues.

- Agricultural Technicians
- Atmospheric and Space Scientists
- Biofuels/Biodiesel Technology and Product Development Managers
- Chemical Technicians
- Chemists
- Environmental Economists
- Environmental Restoration Planners
- Environmental Scientists and Specialists, Including Health
- Geographic Information Systems Technicians
- Geoscientists, Except Hydrologists and Geographers
- Geospatial Information Scientists and Technologists
- Hydrologists
- Industrial Ecologists
- Materials Scientists
- Nuclear Equipment Operation Technicians
- Remote Sensing Technicians
- Water Resource Specialists



» In Demand Occupations

Occupations found in an industry cluster that are projected to add a significant number of new jobs to our state's economy, are existing or emerging occupations being transformed by technology and innovation, or are vital to the overall health of our economy.



| Occupation | Mean Annual Wage |
|--|-------------------------|
| Computer Programmers | \$62,120 |
| Graphic Designers | \$36,580 |
| Vocational Education Teachers, Postsecondary | \$37,810 |
| Secondary School Teachers, Except Special and Vocational Education | \$45,770 |
| Middle School Teachers, Except Special and Vocational Education | \$45,210 |
| Mathematical Science Teachers, Postsecondary | \$51,890 |
| Economists | \$62,360 |
| Statisticians | \$42,020 |

I can be a...

These are just a few of the occupations in Science and Mathematics. To learn about other occupations, go to <http://online.onetcenter.org/find/> and browse by career cluster for occupations in this career pathway.

Zoologists and Wildlife Biologists

Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas.

Sample of reported job titles: Wildlife Biologist, Zoologist, Fish and Wildlife Biologist, Fisheries Biologist, Fishery Biologist, Wildlife Manager, Aquatic Biologist, Assistant Research Scientist, Conservation Resources Management Biologist, Environmental Specialist

Entry pay: \$26.61 per hour/\$55,350 annual

2012 Projected Employment: 274

Education: Bachelor's Degree



Courtesy: National Science Foundation

Chemical Technicians

Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analysis of solids, liquids, and gaseous materials for purposes such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences.

Sample of reported job titles: Laboratory Technician (Lab Tech), Laboratory Analyst (Lab Analyst), Research Technician, Analytical Lab Technician, Laboratory Tester (Lab Tester), Research and Development Technician, Analytical Technician, Chemical Technician, Environmental Lab Technician, Formulation Technician

Entry pay: \$19.57 per hour/\$40,720 annual

2012 Projected Employment: 305

Education: Associate Degree



What are the Science and Mathematics Degree Programs?

Almost every university, college, and technical school in Arkansas offers training and education for a career in Science and Mathematics. Here are just a few of the programs:

Anthropology
Applied Mathematics
Cartography
Economics
Education

Forestry
Foods, Nutrition, and Wellness Studies
Geography
Physics
Technical and Business Writing

Check with your school career counselor to find out more about where these and other programs are offered.

Microbiologists

Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Include medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms.

Sample of reported job titles: Microbiologist, Microbiological Analyst, Clinical Laboratory Scientist, Bacteriologist, Study Director, Microbiological Laboratory Technician, Microbiology Laboratory Manager, Professor of Microbiology, Quality Control Microbiologist (QC Microbiologist), Clinical Microbiologist

Entry pay: \$33.11 per hour/\$68,870 annual

2012 Projected Employment: 207

Education: Doctoral Degree



Other Science and Mathematics Occupations

Surveying and Mapping Technicians
Audio and Video Equipment Technicians
Nuclear Technicians
Computer Programmers
Graphic Designers

Materials Engineers
Conservation Scientists
Statisticians
Hydrologists
Astronomers

Science, Technology, Engineering and Math Career Cluster

In high school, career clusters are designed to give you the education and skills you need to be successful in a career.

Sixteen career clusters have been developed to help you explore your career opportunities. Within these career clusters are career pathways that are more specialized. These pathways will help you explore more specific careers. Plus, many of the classes can earn you college credit if you successfully pass the course.

The STEM career cluster prepares learners for careers in the planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social

science, engineering) including laboratory and testing services, and research and development services.

The tables on this page list a sample high school class schedule, Career Focus classes that are required for graduation, STEM programs of study, plus work-based and extra curricular activities are also listed to help you further your education. On the next page you will find the other career clusters that are offered in Arkansas secondary schools.

Talk with your career guidance counselor to see what career pathways are offered in your school or a nearby postsecondary institution.

Sample High School Schedule

| 9th Grade | 10th Grade | 11th Grade | 12th Grade |
|-----------------------|-----------------------------|--|---|
| English I or Pre-AP | English II or Pre-AP | English III or AP | English IV or AP |
| Algebra I or Geometry | Geometry or Algebra II | Algebra II or Trigonometry Pre-AP Calculus | AP Calculus College Algebra AP Statistics |
| Physical Science | Biology Pre-AP Chemistry | Chemistry Physics Anatomy & Physiology Principals of Technology | AP Biology AP Chemistry AP Physics Earth & Space Science |
| Civics | World History | American History | Economics/Government |

| Six Units in a Career Focus are Required for Graduation | | Science, Technology, Engineering and Mathematics (STEM) Programs of Study | |
|--|--|---|--|
| Foundation & Support Courses Career Orientation Computer Technology Keyboarding Foreign Language Word Processing or Computer Business Applications (CBA) Agriculture Science and Technology Family & Consumer Science | Programs of Study Electives EAST/Workforce-Technology Internship Workplace Readiness Senior Seminar | Advertising & Graphic Design Agricultural Animal Science Aviation Computer Engineering Computer Programming Drafting and Design- Architectural CAD Drafting and Design- Engineering CAD Electronics Geospatial Technology | Graphic Communications Health Science Agricultural Horticulture Machine Tool Technology Multimedia Natural Resources/ Environmental Science Oracle Internet Academy Pre-Engineering Radio/TV Broadcasting Web Design |

| Work-Based Learning Options | Extra Curricular Activities |
|--|---|
| Job Shadowing Internship Mentoring On-the-Job Training Youth Apprenticeship JAG | SKILLS USA Oracle Global Academy Gifted and Talented Science and Engineering Fairs Mathematics Competitions FBLA |

Science, Technology, Engineering & Mathematics

ARCHITECTURE & CONSTRUCTION

FINANCE

arts, a-v technology & communications

business management & administration

TRANSPORTATION, DISTRIBUTION & LOGISTICS



» » Career Clusters



Career clusters contain occupations in the same field of work that require similar skills. Students, parents, and educators can use career clusters to help focus education plans toward obtaining the necessary knowledge, competencies, and training for success in a particular career pathway.

Law, Public Safety, Corrections & Security

MANUFACTURING

education and training

GOVERNMENT & PUBLIC ADMINISTRATION

HUMAN SERVICES

Marketing, Sales & Service

hospitality and tourism

Information Technology

health sciences



AGRICULTURE, FOOD & NATURAL RESOURCES



Choosing a Career

» Making the choices that are right for you

A first step in deciding what to do after high school is to talk with your school counselor or a teacher for advice.

Ask your counselor about taking an aptitude test or interest inventory to find your strengths, weaknesses, and interests to discover potential career choices that are right for you.

You can access a free self-assessment called the Career Finder at www.studentaid.ed.gov/myfsa.

Learn about yourself.

- **Values** - What is important to you?
- **Interests** - What appeals to you?
- **Aptitude** - What are you good at?

Talk to people.

Once you've narrowed your career choices, talk to people who are working in that field or, if possible, find a part-time job or volunteer in that field.

It's helpful to ask questions such as, "What's good and bad about this job?" and "How did you learn your trade?"

There are many sources of career and job outlook information available - go to your school library, public library, or school counselor.

Consider how much training you will need for the career you're interested in.

- **High school diploma** - cashier, receptionist, retail salesperson, security guard, waiter or waitress
- **Special career training (e.g., trade/vocational school, apprenticeship)** - auto service technician or mechanic, cosmetologist, police officer, truck driver
- **College degree** - accountant, engineer, forensic science technician, registered nurse, pilot, teacher, public relations specialist, video game designer
- **Graduate or professional degree** - college professor, doctor, dentist, lawyer, veterinarian, research scientist, architect

For information about specific careers, see the Occupational Outlook Handbook at www.bls.gov/oco or at a library. There is a Spanish-language version of the Occupational Outlook Handbook; visit www.bls.gov/es/oo for details. For information about financial aid for college or trade/vocational schools, see www.studentaid.ed.gov.

Source: <http://www.studentaid.ed.gov/pubs>

How will I pay for College?

» Financial Aid FAQs



If you are planning to attend college, you should do a little research first. Find out how much it will cost to go to college, what part of that cost you and your family will be expected to pay, and what types of financial aid are available. The following information is intended to get you started.

What is Financial Aid?

Financial aid is money awarded to a student to help pay educational costs. Most financial aid is awarded according to individual need and educational costs. The federal government, state government, post-secondary institutions, and private organizations provide financial aid to eligible students in the form of grants, scholarships, loans, and employment.

Grants and scholarships are awarded based on either financial need or merit and do not have to be paid back. Employment can be a job provided by the college and can be on or off campus. A loan is money provided by a bank, the college, or the government, which must be paid back with interest.

Private sources of financial aid come from social and civic organizations, religious organizations, and businesses.

How much does it cost to attend college?

Educational costs can differ significantly from one school to another, depending on the type of school and your program of study. In general, costs are lowest at a public vocational-technical school, higher at a public community or technical college, still higher at a public four-year college, and highest at a private college.

The total cost of attending school today may range from \$2,000 per year to more than \$30,000 per year. Financial Aid programs have been created to help you pay for these costs. Schools

with higher costs often have more financial aid available than lower cost schools. Therefore, when comparing costs, it's very important to determine the financial aid available. This way you can determine what your out-of-pocket expenses will be.

But remember, cost is only one factor in selecting a school. Consider your goals, what programs and opportunities each school offers, and how well that school will help you meet your goals.

What do educational costs include?

The total educational costs are called the Cost of Attendance (COA) and include (1) tuition and fees, (2) books and supplies, (3) room and board, (4) transportation, and (5) miscellaneous personal expenses, such as clothing, laundry, and recreation. Because the COA includes items that are living costs but are not paid directly to the school, the actual amount billed by the school will be less than the COA.

What is the family's responsibility?

The primary responsibility for financing a college education rests with the student and his family. The family is expected to pay for the cost of college to the extent that it is able. Financial assistance is designed to help with the difference between what the family can afford and the cost of attendance. The student shares in the family's responsibility to pay for college and is expected to contribute from his earnings and savings.

The amount the family is expected to pay toward the cost of college is called the Expected Family Contribution (EFC).

How is the family's expected contribution determined?

Colleges, government agencies and organizations that award financial aid based on

financial need, use a process called Needs Analysis to determine how much the family is expected to pay towards the cost of a college education. This process uses both the parent's and student's income and assets and other information about the family such as the number in college, to calculate the Expected Family Contribution. During the needs analysis calculations, certain allowances are applied to protect the family's income and assets for the cost of living and future retirement needs.

The needs analysis is performed by the U.S. Department of Education based on the information provided by the family on the Free Application for Federal Student Aid (FAFSA). This is the basic form required for most financial aid programs based on financial need. Any student who wishes to apply for financial assistance should complete and submit this application. FAFSAs can be obtained from high school guidance counselors, college financial aid offices, libraries, and other sources.

How is eligibility for financial aid determined?

Most financial aid is awarded based on financial need. The Cost of Attendance minus the Expected Family Contribution equals financial need. The school you attend uses the EFC calculated during needs analysis and the school's cost of attendance to determine your eligibility for need-based financial aid. Some aid is merit based, meaning eligibility is based on performance or achievement, such as athletic scholarships or academic scholarships based on ACT scores, or GPA.

How much financial aid can I receive?

The total financial aid a student receives can include funds from more than one source or financial aid program. Normally, though, the total financial aid received will not exceed the financial need, or in some cases, the cost of attendance. For the best chance of getting the aid you need, apply as early as possible for each financial aid program for which you might be eligible.

Source: Arkansas Department of Higher Education

» Helpful Websites



www.adhe.edu

www.asla.info

www.careeronestop.org

www.careerwatch.org

www.college.gov

www.discover.arkansas.gov

www.fafsa.ed.gov

www.fundmyfuture.info

www.going2college.org

www.knowhow2go.org

www.mappingyourfuture.org

www.slgfa.org

Scholarships, Grants, and Federal Aid

Arkansas Scholarships and Grants

Source: Arkansas Department of Higher Education

The Arkansas Department of Higher Education reviews and approves academic programs and develops funding recommendations for the state's 11 public universities and 22 public two-year colleges, as well as several other post-secondary entities. In addition, the agency is responsible for distributing approximately \$170 million annually from state revenues and lottery funds in the form of financial aid, intended to ease the financial burden of students seeking an education beyond high school.

More than 20 grant and loan repayment programs are available to students, with eligibility requirements ranging from academic status and financial need to specific fields of study. Below is a listing of a few programs:

Academic Challenge Scholarship - provides scholarships to Arkansas residents pursuing a higher education. Funded in large part by the Arkansas Scholarship Lottery, the Academic Challenge Scholarship is available to students regardless of current academic status, whether just graduating from high school, currently enrolled in college, enrolling in college for the first time, or re-enrolling after a period of time out of college.

Arkansas Health Education Grant Program (ARHEG) - provides financial assistance to students seeking professional training in chiropractic medicine, dentistry, optometry, osteopathic medicine, podiatric medicine, and veterinary medicine to allow them to attend out-of-state institutions.

Governor's Scholars Program - for graduating high school seniors. Awards \$4,000 annually to the top applicant in each county based on academic achievement, test score, rank-in-class, and leadership. The top 300 applicants scoring 32 on the ACT or 1410 on the SAT and have earned a 3.50 academic grade point average, or are named National Merit or National Achievement Finalists Scholars are named Governor's Distinguished Scholars and receive tuition, mandatory fees, and room and board up to \$10,000 per year.

Higher Education Opportunities Grant (GO! Opportunities Grant) - provides \$1,000 grants to full-time and \$500 grants to part-time students based on financial need. Students must meet the income requirements of \$25,000 for a family with one (1) in the household; the maximum income increases by \$5,000 for each additional number in the household up to ten (10) additional household members. Applicants must complete the Free Application for Federal Student Aid (FAFSA) and the GO! Opportunities Grant application.

Law Enforcement Officers' Dependents Scholarship Program - waiver of tuition, fees, and room at any public college, university, or technical institute in Arkansas for dependents and spouses of Arkansas law enforcement officers, some Highway and Transportation Department employees, and other public employees who were killed or permanently disabled in the line of duty.

Military Dependents Scholarship Program - waiver of tuition, fees, and room and board at any public college, university, or technical institute in Arkansas for dependents and spouses of Arkansans who were killed or missing in action or who were prisoners of war or who are currently totally and permanently disabled.

The Guard Tuition Incentive Program (GTIP) - is a state-funded award to assist soldiers with their educational expenses. A soldier can receive up to \$2,500 per semester (summer sessions not included.) Applications can be obtained at the units or through the Guard Education Office.

Second Effort Scholarship - up to \$1,000 annually to individuals with the top 10 scores on the GED exam during the previous calendar year.

State Teacher Education Program (STEP) - offers federal loan repayment to current teachers who are either minority and/or teaching in a subject and/or geographic shortage area in an Arkansas public school.

Student Undergraduate Research Fellowship (SURF) Program - designed to allow undergraduate students to conduct in-depth research projects in their specific fields of study with the assistance of faculty mentors.

Teacher Opportunity Program - offers reimbursement grants for costs associated with six (6) semester credit hours or the equivalent to current Arkansas teachers and administrators who return to an approved institution of higher education to pursue additional education related to the job. Priority will be given to those applicants who are pursuing an additional licensure in a subject area declared to be a shortage area.

Workforce Improvement Grant - awards up to \$2,000 annually to students at least 24 years old based on financial need. Students apply using the Free Application for Federal Student Aid (FAFSA), and awards are made by the institution the student attends. Students may be enrolled part time.

This information is current as of June 2011 and is provided for informational purposes only. It is not intended to be a complete description of the programs or their requirements. For complete information about a particular program, go to www.adhe.edu and click on Financial Aid to review the program's rules and regulations. The eligibility requirements and rules governing the programs administered by the Arkansas Department of Higher Education are subject to legislative and regulatory amendments. Please e-mail the Financial Aid Division at finaid@adhe.edu if you should need further information.

Please Note: Due to current economic conditions, awards for all ADHE programs may be limited by the availability of funds. Applicants are encouraged to apply but are also encouraged to pursue all sources of financial aid.

YOUiversal

ARKANSAS FINANCIAL AID SYSTEM

Your Future, No Boundaries



Arkansas residents seeking education beyond high school will now find the scholarship application process more user-friendly than ever before, thanks to the YOUiversal Scholarship Application. By answering a few simple questions about age, grade-point average, ACT or SAT scores, and income level, applicants will be matched with the financial aid programs they may qualify for, along with an estimated amount of financial aid they might expect in an academic year.

Log on to www.adhe.edu and click on the YOUiversal logo to get started. Applicants can also download the YOUiversal app for their smart phones at www.adhe.edu/aid.

BUT residents still have to fill out the Free Application for Federal Student Aid form to determine eligibility for Federal financial aid. Go to www.fafsa.edu.gov to fill out your form.

Applicants can begin applying for Federal Student Aid after January 1, 2012, for the 2012-2013 school year.

Federal Grants and Financial Aid

Source: <http://studentaid.ed.gov>

Parent Loan for Undergraduate Students (PLUS Loan) - Parents can borrow a PLUS Loan to help pay your education expenses if you are a dependent undergraduate student enrolled at least half time in an eligible program at an eligible school. PLUS Loans are available through the Federal Family Education Loan (FFEL) Program and the Direct Loan Program. Your parents can get either loan, but not both, for you during the same enrollment period. They also must have an acceptable credit history. For a Direct PLUS Loan, your parents must complete a Direct PLUS Loan application and promissory note contained in a single form that you get from your school's financial aid office. For a FFEL PLUS Loan, your parents must complete and submit a PLUS Loan application available from your school, lender, or your state guaranty agency. After the school completes its portion of the application, it must be sent to a lender for evaluation. Parents must agree to repay the loan within 10 years, beginning 60 days after the funds are fully disbursed.

Pell Grant - A Federal Pell Grant, unlike a loan, does not have to be repaid. Pell Grants are awarded usually only to undergraduate students who have not earned a bachelor's or a professional degree. (In some cases, however, a student enrolled in a post-baccalaureate teacher certification program might receive a Pell Grant.) Pell Grants are considered a foundation of federal financial aid, to which aid from other federal and nonfederal sources might be added.

Perkins Loan - A Federal Perkins Loan is a low-interest loan for both undergraduate and graduate students with exceptional financial need. Federal Perkins Loans are made through a school's financial aid office. Your school is your lender, and the loan is made with government funds. You must repay this loan to your school.

Stafford Loan - You must fill out a FAFSA. After your FAFSA is processed, your school will review the results and will inform you about your loan eligibility. You also will have to sign a promissory note, a binding legal document that lists the conditions under which you're borrowing and the terms under which you agree to repay your loan.

Supplemental Educational Opportunity Grant - Federal Supplemental Educational Opportunity Grants (FSEOG) are for undergraduates with exceptional financial need. Pell Grant recipients with the lowest EFCs will be the first to get FSEOGs. Just like Pell Grants, FSEOGs don't have to be paid back.

Work Study - Federal Work-Study (FWS) provides part-time jobs for undergraduate and graduate students with financial need, allowing them to earn money to help pay education expenses. The program encourages community service work and work related to the recipient's course of study.



Full-time tuition for public institutions is based on Arkansas Department of Higher Education estimates of 15 credit hours plus mandatory fees per semester for the 2010-2011 school year. Full-time tuition for private institutions is based on figures from the institution's website or financial aid office. Some private institutions have set rates for each program offered. Check with the institution for actual tuition and fees.

Arkansas Colleges & Universities

Arkansas Baptist College

501-370-4000

Website: www.arkansasbaptist.edu

Private: 4-year

2010-2011 Enrollment: 1,121

Annualized Tuition: \$7,432 or \$8,082 for first-time students (includes lap top fee)

Office of Admissions: 1621 Martin Luther King Drive, Little Rock, 72202, 501-244-5186, 866-920-4222

Office Of Financial Aid: 1621 Martin Luther King Drive, Little Rock, 72202, 501-374-0804, 501-374-6135

Student Housing: 1621 Martin Luther King Drive, Little Rock, 72202, 501-244-5164

Arkansas Northeastern College

870-762-1020

Website: www.anc.edu

Public: 2-year

2010-2011 Enrollment: 2,003

Annualized Tuition: \$2,140

Admissions: P.O. Box 1109, Blytheville, 72316, 870-838-2955

Financial Aid Office: Statehouse Hall, P.O. Box 1109, Blytheville, 72316, 870-762-3103

Other locations: Burdett, Leachville, Osceola, Paragould

Arkansas State University

870-972-2100

Website: www.astate.edu

Public: 4-year

2010-2011 Enrollment: 13,415

Annualized Tuition: \$6,640

Office of Admissions: P.O. Box 1630, State University, 72467, 870-972-3024, 800-382-3030, admissions@astate.edu

Financial Aid: P.O. Box 1620, State University, 72467, 870-972-2310, finaid@astate.edu

Residence Life: P.O. Box 2774, State University, 72467, 870-972-2042, reslife@astate.edu

Other locations: Paragould, Marked Tree

Arkansas State University at Beebe

501-882-3600

Website: www.asub.edu

Public: 2-year

2010-2011 Enrollment: 4,683

Annualized Tuition: \$2,790

Office of Admissions: P.O. Box 1000, Beebe, 72012, 501-882-8860, 800-632-9985, admissions@asub.edu

Financial Aid Office: P.O. Box 1000, Beebe, 72012, 501-882-8845, finaid@asub.edu

Office of Student Life: P.O. Box 1000, Beebe, 72012, 501-882-8951

Other locations: Heber Springs, Little Rock Air Force Base, Searcy

Arkansas Colleges & Universities

Arkansas State University at Mountain Home 870-508-6100

Website: www.asumh.edu

Public: 2-year

2010-2011 Enrollment: 1,583

Annualized Tuition: \$2,910

Office of Admissions: 1600 South College Street, Mountain Home, 72653, 870-508-6104

Financial Aid Office: 1600 South College Street, Mountain Home, 72653, 870-508-6195

Other locations: Adult Education center in Mountain Home

Arkansas State University at Newport 870-512-7800

Website: www.asun.edu

Public: 2-year

2010-2011 Enrollment: 2,085

Annualized Tuition: \$2,550

Office of Admissions: 7648 Victory Boulevard, Newport, 72112, 870-512-7800, 800-976-1676

Financial Aid Office: 7648 Victory Boulevard, Newport, 72112, 870-512-7713

Other locations: Marked Tree, Technical Center in Jonesboro

Arkansas Tech University 479-968-0389

Website: www.atu.edu

Public: 4-year

2010-2011 Enrollment: 9,815

Annualized Tuition: \$5,908

Office of Admissions: 1605 Coliseum Drive, Suite 141, Russellville, 72801, 479-968-0343, 800-582-6953, tech.enroll@atu.edu

Financial Aid: 1605 Coliseum Drive, Suite 117, Russellville, 72801, 479-968-0399, fa.help@atu.edu

Office of Residential Life: 229 "Doc" Bryan Student Services Building, Russellville, 72801, 479-968-0376, residence.life@atu.edu

Other locations: Ozark

Arkansas Tech University-Ozark 866-225-2884

Website: www.atu.edu/ozark

Public: 2-year Technical

Annualized Tuition: \$2,460

Office of Student Services: 1700 Helberg Lane, Ozark, 72949, 866-225-2884, ozarkadmit@atu.edu

Financial Aid: 1700 Helberg Lane, Ozark, 72949, 479-667-2117

Black River Technical College 870-248-4000

Website: www.blackrivertech.edu

Public: 2-year

2010-2011 Enrollment: 2,497

Annualized Tuition: \$2,460

Admissions: P.O. Box 468, Pocahontas, 72455, 870-248-4000 ext. 4011

Financial Aid Office: P.O. Box 468, Pocahontas, 72455, 870-248-4000 exts. 4019, 4020, 4021, finaid@blackrivertech.edu

Other locations: Paragould

Central Baptist College 800-205-6872

Website: www.cbc.edu

Private: 4-year

2010-2011 Enrollment: 736

Annualized Tuition: \$8,810

Admissions: 1501 College Avenue, Conway, 72034, 501-329-6872 ext. 167

Financial Aid: 1501 College Avenue, Conway, 72034, 501-329-6872 exts. 185 and 197

Residence Life: 1501 College Avenue, Conway, 72034, Women's 501-329-6872 ext. 179, Men's 501-329-6872 ext. 182

Other locations: Camp Robinson

Most college students
change their majors
at least once.

Arkansas Colleges & Universities

Cossatot Community College of the University of Arkansas

800-844-4471

Website: www.cccua.edu

Public: 2-year

2010-2011 Enrollment: 1,523

Annualized Tuition: \$2,080

Office of Admissions: P.O. Box 960, DeQueen, 71832, 870-584-4471, admissions@cccua.edu

Office of Financial Aid: P.O. Box 960, DeQueen, 71832, 870-584-4471 exts. 1148, 1128, 1127, and 1118, financialaid@cccua.edu

Other locations: Ashdown, Nashville

Crowley's Ridge College

800-264-1096

Website: www.crc.edu

Private: 4-year

2010-2011 Enrollment: 201

Annualized Tuition: \$9,850

Admissions: 100 College Drive, Paragould, 72450, 870-236-6901

Financial Aid: 100 College Drive, Paragould, 72450, 870-236-6901

Housing: 100 College Drive, Paragould, 72450, 870-236-6901

Crowley's Ridge Technical Institute

800-842-2317

Website: www.crti.tec.ar.us

Public: Technical

Annualized Tuition: \$1,080

Admissions: P.O. Box 925, Forrest City, 72336, 870-633-5411

Financial Aid Office: P.O. Box 925, Forrest City, 72336, 870-633-5411

East Arkansas Community College

870-633-4480

Website: www.eacc.edu

Public: 2-year

2010-2011 Enrollment: 1,510

Annualized Tuition: \$2,430

Admissions Office: 1700 Newcastle Road, Forrest City, 72335, 870-633-4480 ext. 300

Financial Aid: 1700 Newcastle Road, Forrest City, 72335, 870-633-4480 ext. 225

Other locations: Wynne

Harding University

501-279-4000

Website: www.harding.edu

Private: 4-year

2010-2011 Enrollment: 6,748

Annualized Tuition: \$11,322

Office of Admissions: P.O. Box 12255, Searcy, 72149, 501-279-4407, 800-477-4407

Office of Student Financial Services: P.O. Box 12282, Searcy, 72149, 501-279-4257, 800-477-3243, finaid@harding.edu

Office of Student Life/Housing: P.O. Box 12252, Searcy, 72149, 501-279-4256, housing@harding.edu

Other locations: North Little Rock, Bentonville

Henderson State University

870-230-5000

Website: www.hsu.edu

Public: 4-year

2010-2011 Enrollment: 3,713

Annualized Tuition: \$6,444

Office of Admissions: Box 7560, Arkadelphia, 71999, 870-230-5028, 800-228-7333, admissions@hsu.edu

Office of Financial Aid: HSU Box 7812, Arkadelphia, 71999, 870-230-5148

Residence Life: P.O. Box 7533, Arkadelphia, 71999, 870-230-5083, ResLife@hsu.edu

Hendrix College

800-277-9017

Website: www.hendrix.edu

Private: 4-year

2010-2011 Enrollment: 1,467

Annualized Tuition: \$32,040

Office of Admissions: 1600 Washington Avenue, Conway, 72032, 501-450-1362, adm@hendrix.edu

Office of Financial Aid: 1600 Washington Avenue, Conway, 72032, 501-450-1368, student_aid@hendrix.edu

Residence Life: 1600 Washington Avenue, Conway, 72032, 501-450-1416, housing@hendrix.edu

ITT Technical Institute

800-359-4429, 501-565-5550

Website: www.itt-tech.edu

Private: 2-year Technical

Annualized Tuition: Varies

Admissions: 4520 South University Avenue, Little Rock, 72204

Financial Aid: 4520 South University Avenue, Little Rock, 72204

Arkansas Colleges & Universities

John Brown University

479-524-9500

Website: www.jbu.edu

Private: 4-year

2010-2011 Enrollment: 2,131

Annualized Tuition: \$19,730

Admissions: 2000 West University Street,
Siloam Springs, 72761, 877-528-4636,
jbuinfo@jbu.edu

Financial Aid: 2000 West University Street,
Siloam Springs, 72761, 877-528-4636,
finaid@jbu.edu

Residence Life: 2000 West University Street,
Siloam Springs, 72761, 479-524-7229, 479-524-7252

Lyon College

870-307-7000

Website: www.lyon.edu

Private: 4-year

2010-2011 Enrollment: 651

Annualized Tuition: \$21,324

Admissions: P.O. Box 2317, Batesville, 72503,
870-307-7250, 800-423-2542,
admissions@lyon.edu

Financial Aid: P.O. Box 2317, Batesville, 72503,
870-307-7256

Residence Life: 2300 Highland Road, Batesville,
72503, 870-307-7375, residence.life@lyon.edu

Mid-South Community College

866-733-6722

Website: www.midsouthcc.edu

Public: 2-year

2010-2011 Enrollment: 2,339

Annualized Tuition: \$2,720

Office of Admissions: 2000 West Broadway
Boulevard, West Memphis, 72301, 870-733-6728,
admissions@midsouthcc.edu

Financial Aid Office: 2000 West Broadway
Boulevard, Reynolds Center Room 150,
West Memphis, 72301, 870-733-6729,
finAid@midsouthcc.edu

National Park Community College

501-760-4222

Website: www.npcc.edu

Public: 2-year

2010-2011 Enrollment: 3,845

Annualized Tuition: \$2,670

Office of Admissions: 101 College Drive,
Hot Springs, 71913, 501-760-4363

Financial Aid: 101 College Drive, Hot Springs,
71913, 501-760-4159

North Arkansas College

870-743-3000

Website: www.northark.edu

Public: 2-year

2010-2011 Enrollment: 2,421

Annualized Tuition: \$2,580

Admissions: 1515 Pioneer Drive, Harrison, 72601,
870-391-3505, admissions@northark.edu

Financial Aid Office: 1515 Pioneer Drive, Harrison,
72601, 870-391-3266, financial-aid@northark.edu

Other locations: Berryville

Northwest Arkansas Community College

479-636-9222

Website: www.nwacc.edu

Public: 2-year

2010-2011 Enrollment: 8,365

Annualized Tuition: \$3,813

Admissions: One College Drive, Bentonville, 72712,
479-619-4386, admissions@nwacc.edu

Financial Aid Office: One College Drive,
Bentonville, 72712, 479-619-4329,
finaid@nwacc.edu

Other locations: Washington County, Bella Vista,
and Fayetteville

Northwest Technical Institute

479-751-8824

Website: www.nti.tec.ar.us

Public: Technical

Annualized Tuition: \$1,488

Admissions: P.O. Box 2000, Springdale, 72765,
479-751-8824 ext. 100, info@nwti.edu

Financial Aid Office: P.O. Box 2000, Springdale,
72765, 479-751-8824 ext. 240

Nationally, of the
20 fastest-growing
occupations, more than
half require an associate
degree or higher.

Arkansas Colleges & Universities

Ouachita Baptist University

800-342-5628

Website: www.obu.edu

Private: 4-year

2010-2011 Enrollment: 1,504

Annualized Tuition: \$19,820

Admissions: Box 3776, Arkadelphia, 71998,
800-342-5628, admissions@obu.edu

Student Financial Services: Box 3774, Arkadelphia,
71998, 870-245-5570, finaid@obu.edu

Student Housing: Box 3758, Arkadelphia, 71998,
870-245-5220

College of the Ouachitas

800-337-0266

Website: www.otcweb.edu

Public: 2-year

2010-2011 Enrollment: 1,542

Annualized Tuition: \$2,312

Office of Admissions: One College Circle, Malvern,
72104, 501-337-5000

Financial Aid: One College Circle, Malvern, 72104,
501-337-5000, financialaid@otcweb.edu

Ozarka College

870-368-7371

Website: www.ozarka.edu

Public: 2-year

2010-2011 Enrollment: 1,573

Annualized Tuition: \$2,720

Office of Admissions: P.O. Box 10, Melbourne,
72556, 870-368-2024, admissions@ozarka.edu

Financial Aid: P.O. Box 10, Melbourne, 72556,
870-368-2009, finaid@ozarka.edu

Other locations: Ash Flat, Mountain View,
Mammoth Spring

Philander Smith College

501-370-5221

Website: www.philandersmithadmissions.com

Private: 4-year

2010-2011 Enrollment: 696

Annualized Tuition: \$9,450

Office of Admissions: 900 Daisy Bates Drive,
Little Rock, 72202, 501-370-5221,
admissions_officers@philander.edu

Financial Aid Office: 900 Daisy Bates Drive,
Little Rock, 72202, 501-370-5350,
financialaid@philander.edu

Housing: 900 Daisy Bates Drive, Little Rock,
72202, 501-975-6059

Phillips Community College of the University of Arkansas

870-338-6474

Website: www.pccua.edu

Public: 2-year

2010-2011 Enrollment: 2,155

Annualized Tuition: \$2,450

Office of Admissions: P.O. Box 785, Helena, 72342,
870-338-6474 exts. 1336, 1150

Financial Aid: P.O. Box 785, Helena, 72342,
870-338-6474 ext. 1258

Other locations: Stuttgart, Dewitt

Pulaski Technical College

501-812-2200

Website: www.pulaskitech.edu

Public: 2-year

2010-2011 Enrollment: 11,216

Annualized Tuition: \$2,860

Office of Admissions: 3000 West Scenic Drive,
North Little Rock, 72118, 501-812-2231

Office of Financial Aid: 3000 West Scenic Drive,
North Little Rock, 72118, 501-812-2289,
501-812-2283

Other locations: Little Rock, Benton, Bauxite

Remington College

501-312-0007

Website: www.remingtoncollege.edu

Private: 2-year

Annualized Tuition: Varies

Admissions: 19 Remington Drive, Little Rock,
72204, 501-312-0007

Financial Aid: 19 Remington Drive, Little Rock,
72204, 501-312-0007

Rich Mountain Community College

479-394-7622

Website: www.rmcc.edu

Public: 2-year

2010-2011 Enrollment: 1,116

Annualized Tuition: \$2,430

Admissions: 1100 College Drive, Mena, 71953,
479-394-7622 ext. 1440

Financial Aid Office: 1100 College Drive, Mena,
71953, 479-394-7622 exts. 1420, 1421, 1644

Other locations: Waldron, Mount Ida

Arkansas Colleges & Universities

Shorter College

501-374-6305

Website: www.shorter-jrcollege.com

Public: 2-year

Annualized Tuition: \$7,560

Office of Admissions: 604 Locust Street,
North Little Rock, 72114, 501-374-6305 ext. 103

Financial Aid Office: 604 Locust Street,
North Little Rock, 72114, 501-374-6305 ext. 107

South Arkansas Community College

800-955-2289

Website: www.southark.edu

Public: 2-year

2010-2011 Enrollment: 1,760

Annualized Tuition: \$2,620

Admissions: 300 South West Avenue, El Dorado,
71730, 870-864-7195, admissions@southark.edu

Financial Aid: 300 South West Avenue, El Dorado,
71730, 870-864-7150

Southeast Arkansas College

870-543-5900, 888-732-7582

Website: <https://www.seark.edu>

Public: 2-year

2010-2011 Enrollment: 2,189

Annualized Tuition: \$2,770

Office of Admissions: 1900 Hazel Street,
Pine Bluff, 71603, 870-850-8605

Financial Aid Office: 1900 Hazel Street, Pine Bluff,
71603, 870-543-5909

Southern Arkansas University

870-235-4000

Website: www.saumag.edu

Public: 4-year

2010-2011 Enrollment: 3,379

Annualized Tuition: \$6,426

Office of Admissions: P.O. Box 9382, Magnolia,
71754, 870-235-4040, 800-332-7286,
muleriders@saumag.edu

Office of Financial Aid: P.O. Box 9344, Magnolia,
71754, 870-235-4023

Student Housing: P.O. Box 9431, Magnolia, 71754,
870-235-4047, housing@saumag.edu

Southern Arkansas University-Tech

870-574-4500

Website: www.sautech.edu

Public: 2-year

2010-2011 Enrollment: 1,851

Annualized Tuition: \$3,270

Office of Admissions: P.O. Box 3499, Camden,
71711, 870-574-4558

Financial Aid: P.O. Box 3499, Camden, 71711,
870-574-4511

Housing: P.O. Box 3499, Camden, 71711,
870-574-4519

Other locations: Fordyce, Texarkana

University of Arkansas at Fayetteville

479-575-2000

Website: www.uark.edu

Public: 4-year

2010-2011 Enrollment: 21,405

Annualized Tuition: \$6,767

Admissions: 232 Silas H. Hunt Hall, 1 University of
Arkansas, Fayetteville, 72701, 479-575-5346,
800-377-8632, uofa@uark.edu

Office of Financial Aid: 114 Silas Hunt Hall,
Fayetteville, 72701, 479-575-3806

University Housing: 1175 West Cleveland Street,
900 Hotz Hall, Fayetteville, 72701, 479-575-3951,
housing@uark.edu

University of Arkansas at Fort Smith

479-788-7000, 888-512-5466

Website: www.uafortsmith.edu

Public: 4-year

2010-2011 Enrollment: 7,716

Annualized Tuition: \$4,918

Office of Admissions: P.O. Box 3649, Fort Smith,
72913, 479-788-7120

Financial Aid Office: P.O. Box 3649, Fort Smith,
72913, 479-788-7090, finaid@uafortsmith.edu

Office of Housing: 801 North 49th Street,
Fort Smith, 72903, 479-788-7340,
housing@uafortsmith.edu

Choosing a college major
does not limit you to
one type of career.

Arkansas Colleges & Universities

University of Arkansas at Little Rock

800-482-8892

Website: www.ualr.edu

Public: 4-year

2010-2011 Enrollment: 13,176

Annualized Tuition: \$6,642

Office of Admissions: Administration South 208, 2801 South University, Little Rock, 72204, 501-569-3127, admissions@ualr.edu

Financial Aid: Room 208 Administration South, 2801 South University Avenue, Little Rock, 72204 501-569-3035, financialaid@ualr.edu

Office of Student Housing: 2801 South University, Little Rock, 72204, 501-661-1743, housing@ualr.edu

Other locations: Benton

University of Arkansas at Monticello

800-844-1826

Website: www.uamont.edu

Public: 4-year

2010-2011 Enrollment: 3,638

Annualized Tuition: \$4,990

Office of Admissions: Harris Hall, 1st Floor, P.O. Box 3600, Monticello, 71656, 870-460-1026

Financial Aid: P.O. Box 3470, Monticello, 71656, 870-460-1050, 800-226-2643

Residence Life: 1514 Scrogin Drive, Harris Hall, Room 213, P.O. Box 3466, Monticello, 71656, 870-460-1045, reslife@uamont.edu

Other locations: Technology campuses in Crossett and McGehee

University of Arkansas at Monticello College of Technology Crossett

870-364-6414

Website: www.uamont.edu/uamctc

Public: 2-year

Annualized Tuition: \$2,200

Office of Admissions: Harris Hall, 1st Floor, P.O. Box 3600, Monticello, 71656, 870-460-1026, 800-844-1826

Financial Aid: P.O. Box 3470, Monticello, 71656, 870-460-1050, 800-226-2643

University of Arkansas at Monticello College of Technology McGehee

800-747-5360

Website: www.uamont.edu/mcgehee

Public: 2-year

Annualized Tuition: \$2,200

Office of Admissions: Harris Hall, 1st Floor, P.O. Box 3600, Monticello, 71656, 870-460-1026, 800-844-1826

Financial Aid: P.O. Box 3470, Monticello, 71656, 870-460-1050, 800-226-2643

University of Arkansas at Pine Bluff

870-575-8000

Website: www.uapb.edu

Public: 4-year

2010-2011 Enrollment: 3,428

Annualized Tuition: \$5,033

Admissions: Mail Slot 4892, Pine Bluff, 71601, 870-575-8492, 800-264-6585

Student Financial Services: Mail Slot 4985, Pine Bluff, 71601, 870-575-8302, 800-264-6523, finaid@uapb.edu

Residential Life: Mail Slot 4933, Pine Bluff, 71611, 870-575-7256

Other locations: North Little Rock

University of Arkansas Community College at Batesville

800-508-7878

Website: www.uaccb.edu

Public: 2-year

2010-2011 Enrollment: 1,705

Annualized Tuition: \$2,660

Enrollment Center: P.O. Box 3350, Batesville, 72503, 870-612-2139, enrollment@uaccb.edu

Financial Aid: P.O. Box 3350, Batesville, 72503, 870-612-2036, financial.aid@uaccb.edu

Arkansas Colleges & Universities

University of Arkansas Community College at Hope

870-777-5722

Website: www.uacch.edu

Public: 2-year

2010-2011 Enrollment: 1,557

Annualized Tuition: \$2,121

Office of Enrollment Services: P.O. Box 140, Hope, 71802, 870-722-8220

Financial Aid Office: P.O. Box 140, Hope, 71802, 870-722-8265

University of Arkansas Community College at Morrilton

800-264-1094

Website: www.uaccm.edu

Public: 2-year

2010-2011 Enrollment: 2,462

Annualized Tuition: \$3,030

Admissions: 1537 University Boulevard, Morrilton, 72110, 501-977-2053, adm@uaccm.edu

Financial Aid Office: 1537 University Boulevard, Morrilton, 72110, 501-977-2055

University of Arkansas for Medical Sciences

501-686-7000

Website: www.uams.edu

Public: 4-year

2010-2011 Enrollment: 2,836

Annualized Tuition: Varies

Admissions: 4301 West Markham, Slot 541, Little Rock, 72205

Student Financial Services: 4301 West Markham, Slot 864, Little Rock, 72205, 501-686-5451

Student Housing: 4601 West Markham, Slot 536, Little Rock, 72205, 501-686-5850

Other locations: Teaching Centers across the state

University of Central Arkansas

501-450-5000

Website: www.uca.edu

Public: 4-year

2010-2011 Enrollment: 11,444

Annualized Tuition: \$6,908

Office of Admissions: 201 Donaghey Avenue, Bernard Hall, Suite 103, Conway, 72035, 501-450-3128, 800-243-8245, admissions@uca.edu

Office of Student Financial Aid: 201 Donaghey Avenue, McCastlain Hall 001, Conway, 72035, 501-450-3140, finaid@uca.edu

Residence Life: 201 Donaghey Avenue, Bernard Hall, Room 201, Conway, 72035, 501-450-3132, housing@uca.edu

University of the Ozarks

800-264-8636

Website: www.ozarks.edu

Private: 4-year

2010-2011 Enrollment: 630

Annualized Tuition: \$20,610

Office of Admissions: 415 North College Avenue, Clarksville, 72830, 800-264-8636, admiss@ozarks.edu

Office of Financial Aid: 415 North College Avenue, Clarksville, 72830, 479-979-1221

Residential Life: 415 North College Avenue, Clarksville, 72830, 479-979-1322

Williams Baptist College

870-886-6741

Website: www.williamsbaptistcollege.com

Private: 4-year

2010-2011 Enrollment: 615

Annualized Tuition: \$12,020

Office of Admissions: P.O. Box 3737, Walnut Ridge, 72476, 870-759-4120, 800-722-4434, admissions@wbcoll.edu

Office of Financial Aid: P.O. Box 3734, Walnut Ridge, 72476, 870-759-4112, financialaid@wbcoll.edu

Office of Housing: P.O. Box 3712, Walnut Ridge, 72476, 870-759-4302

The higher your education level, the higher your chances of finding and keeping a job.

So, you wanna be a...

Not sure what you want to do with your life?

Well, this is the place to start looking.

The following section is packed with occupations that can be found all over the state in just about every field imaginable. It also will tell you what type of education you will need to get those jobs, how many positions are available, and, of course, how much you can make doing them! Now, not all the occupations are listed here, as there are more than 800 of them. If you would like to know more about any occupation, or one that is not listed here, go to www.discover.arkansas.gov and click on the "Occupations" link.

2011-2012 Occupations and Careers

Occupation Description

This column provides the title and a brief description of the occupation. The occupations are listed in numerical order by Standard Occupational Classification Codes. Keep in mind the work you actually do will depend on your employer, training, and experience.

Job Outlook

The first line in this column shows an estimate of the total number of workers in the occupation in Arkansas. The second line shows an estimate of the rate of growth for the occupation in Arkansas. Above average is more than 5 percent, average is between 2 and 5 percent, below average is between 0 and 2 percent and decline is below 0 percent. The third line shows an estimate of the number of openings expected each year in Arkansas for the occupation. The Arkansas Labor Market Information Section bases both the growth rate and annual openings data on occupational projections.

AA – Above Average

A – Average

BA – Below Average

D – Decline

Suggested Education

This column lists training or education that is most commonly needed by workers to become fully qualified in the occupation. There may be other training and educational alternatives than those listed.

First professional degree (FP) – Requires at least three years of full-time academic study beyond a bachelor's degree

Doctoral degree (D) – Requires at least three years of full-time academic study beyond a bachelor's degree

Master's degree (M) – Requires one or two years of full-time academic study beyond a bachelor's degree

Bachelor's or higher degree, plus work experience (B+) – Requires experience in a related position requiring a bachelor's degree

Bachelor's degree (B) – Requires four or five years of full-time academic study

Associate degree (A) – Requires at least two years of full-time academic study

Postsecondary Vocational Training (PVT) – Programs last a few weeks to more than a year; leads to a certificate

Work experience in a related occupation (W) – Requires experience in a related position that does not require a degree

Long-term on-the-job training (LOJT) – Requires more than 12 months of training or a combination of work experience and classroom instruction

Moderate-term on-the-job training (MOJT) – Requires one to 12 months of combined work experience and informal training

Short-term on-the-job training (SOJT) – Requires a short demonstration of job duties or one month or less of training or work experience

Estimated Earnings

This column shows an estimated mean hourly wage and annual salary in Arkansas for the occupation. This data is based on an annual wage survey conducted by the Arkansas Labor Market Information Section. The actual pay for a job may vary depending on the geographic area, qualifications of the employee, and the pay scale of the employer.

N/A – Not Available

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|---------------------|-----------|-------------------------------|
| Management, Business, and Financial Occupations | | | |
| 11-1011 Chief Executives - Determine and formulate policies and provide the overall direction of companies or private and public sector organizations within the guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers. | 3,280 BA 89 | B+ | \$68.46 \$142,400 |
| 11-1021 General and Operations Managers - Plan, direct, or coordinate the operations of companies or public and private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Includes owners and managers who head small business establishments whose duties are primarily managerial. | 13,146 D 360 | B+ | \$43.55 \$90,580 |
| 11-2011 Advertising and Promotions Managers - Plan and direct advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or give-aways, to create extra interest in the purchase of a product or service for a department, an entire organization, or on an account basis. | 255 BA 7 | B+ | \$34.93 \$72,650 |
| 11-2021 Marketing Managers - Determine the demand for products and services offered by a firm and its competitors and identify potential customers. Develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services. | 681 A 25 | B+ | \$50.45 \$104,940 |
| 11-2022 Sales Managers - Direct the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers. | 2,249 A 72 | B+ | \$47.65 \$99,100 |
| 11-3021 Computer and Information Systems Managers - Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. | 1,420 A 38 | B+ | \$47.54 \$98,880 |
| 11-3031 Financial Managers - Plan, direct, and coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment. | 3,644 BA 70 | B+ | \$37.92 \$78,880 |
| 11-3041 Compensation and Benefits Managers - Plan, direct, or coordinate compensation and benefits activities and staff of an organization. | 171 BA 4 | B+ | \$41.23 \$85,760 |
| 11-3051 Industrial Production Managers - Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications. | 1,434 BA 53 | W | \$37.45 \$77,900 |
| 11-3061 Purchasing Managers - Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. | 497 BA 15 | B+ | \$43.26 \$89,980 |
| 11-3071 Transportation, Storage, and Distribution Managers - Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with governmental policies and regulations. | 864 D 23 | W | \$38.85 \$80,810 |
| 11-9012 Farmers and Ranchers - On an ownership or rental basis, operate farms, ranches, greenhouses, nurseries, timber tracts, or other agricultural production establishments which produce crops, horticultural specialties, livestock, poultry, finfish, shellfish, or animal specialties. May plant, cultivate, harvest, perform post-harvest activities, and market crops and livestock; may hire, train, and supervise farm workers or supervise a farm labor contractor; may prepare cost, production, and other records. May maintain and operate machinery and perform physical work. | 49,610 BA 400 | LOJT | \$29.30 \$60,950 |
| 11-9021 Construction Managers - Plan, direct, coordinate, or budget, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. | 2,872 A 70 | B | \$32.91 \$68,450 |
| 11-9033 Education Administrators, Postsecondary - Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges. | 718 A 30 | B+ | \$41.51 \$86,340 |
| 11-9041 Engineering Managers - Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields. | 632 BA 14 | B+ | \$47.20 \$98,170 |
| 11-9051 Food Service Managers - Plan, direct, or coordinate activities of an organization or department that serves food and beverages. | 3,351 BA 93 | W | \$22.58 \$46,960 |
| 11-9111 Medical and Health Services Managers - Plan, direct, or coordinate medicine and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations. | 2,293 BA 58 | B+ | \$37.28 \$77,530 |
| 11-9151 Social and Community Service Managers - Plan, organize, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits. Work may involve directing social workers, counselors, or probation officers. | 1,045 A 34 | B | \$24.26 \$50,460 |
| 13-1022 Wholesale and Retail Buyers, Except Farm Products - Buy merchandise or commodities, other than farm products, for resale to consumers at the wholesale or retail level, including both durable and nondurable goods. Analyze past buying trends, sales records, price, and quality of merchandise to determine value and yield. Select, order, and authorize payment for merchandise according to contractual agreements. May conduct meetings with sales personnel and introduce new products. | 2,435 A 83 | LOJT | \$26.87 \$55,890 |

First professional degree – FP • Doctoral degree – D • Master's degree – M • Bachelor's or higher degree, plus work experience – B+ • Bachelor's degree – B • Associate degree – A

Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT

Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|--|--------------------|-----------|-------------------------------|
| 13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products - Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing. | 1,577 A 56 | LOJT | \$24.39 \$50,730 |
| 13-1031 Claims Adjusters, Examiners, and Investigators - Review settled claims to determine that payments and settlements have been made in accordance with company practices and procedures, ensuring that proper methods have been followed. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation. | 1,916 D 47 | LOJT | \$25.87 \$53,800 |
| 13-1061 Emergency Management Specialists - Coordinate disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies, hazardous materials spills) disasters or hostage situations. | 153 BA 5 | W | \$18.83 \$39,160 |
| 13-1072 Compensation, Benefits, and Job Analysis Specialists - Conduct programs of compensation and benefits and job analysis for employer. May specialize in specific areas, such as position classification and pension programs. | 794 A 35 | B | \$21.77 \$45,280 |
| 13-1081 Logisticians - Analyze and coordinate the logistical functions of a firm or organization. Responsible for the entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources. | 1,036 A 38 | B | \$28.63 \$59,550 |
| 13-1111 Management Analysts - Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants. | 3,121 A 92 | B+ | \$33.05 \$68,740 |
| 13-1121 Meeting and Convention Planners - Coordinate activities of staff and convention personnel to make arrangements for group meetings and conventions. | 177 BA 5 | B | \$18.83 \$39,160 |
| 13-2011 Accountants and Auditors - Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data. | 6,364 A 219 | B | \$26.69 \$55,520 |
| 13-2051 Financial Analysts - Conduct quantitative analyses of information affecting investment programs of public or private institutions. | 627 A 23 | B | \$30.80 \$64,050 |
| 13-2053 Insurance Underwriters - Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications. | 319 D 9 | B | \$24.60 \$51,170 |
| 13-2072 Loan Officers - Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments. Includes mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters. | 2,356 BA 24 | MOJT | \$30.10 \$62,610 |
| Professional and Related Occupations | | | |
| 15-1021 Computer Programmers - Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information. May program websites. | 4,985 D 90 | B | \$29.87 \$62,120 |
| 15-1031 Computer Software Engineers, 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. | 1,728 AA 55 | B | \$32.52 \$67,650 |
| 15-1032 Computer Software Engineers, 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. Apply principles and techniques of computer science, engineering, and mathematical analysis. | 924 AA 35 | B | \$35.99 \$74,850 |
| 15-1051 Computer Systems Analysts - Analyze science, engineering, business, and all other data processing problems for application to electronic data processing 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. May supervise computer programmers. | 2,941 A 111 | B | \$30.32 \$63,070 |
| 15-1061 Database Administrators - Coordinate changes to computer databases, test and implement the database applying knowledge of database management systems. May plan, coordinate, and implement security measures to safeguard computer databases. | 1,066 A 40 | B | \$30.00 \$62,400 |
| 15-1071 Network and Computer Systems Administrators - Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintain network hardware and software. Monitor network to ensure network availability to all system users and perform necessary maintenance to support network availability. May supervise other network support and client server specialists and plan, coordinate, and implement network security measures. | 2,413 A 70 | B | \$29.39 \$61,140 |
| 15-1081 Network Systems and Data Communications Analysts - Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Research and recommend network and data communications hardware and software. Includes telecommunications specialists who deal with the interfacing of computer and communications equipment. May supervise computer programmers. | 2,502 AA 130 | B | \$33.07 \$68,780 |
| 17-1012 Landscape Architects - Plan and design land areas for such projects as parks and other recreational facilities, airports, highways, hospitals, schools, land subdivisions, and commercial, industrial, and residential sites. | 110 D 2 | B | \$25.04 \$52,070 |

First professional degree – FP • Doctoral degree – D • Master's degree – M • Bachelor's or higher degree, plus work experience – B+ • Bachelor's degree – B • Associate degree – A

Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT

Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|-------------------|-----------|-------------------------------|
| 17-1022 Surveyors - Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction, and other purposes. | 388 D 9 | B | \$22.09 \$45,950 |
| 17-2011 Aerospace Engineers - Perform a variety of engineering work in designing, constructing, and testing aircraft, missiles, and spacecraft. May conduct basic and applied research to evaluate adaptability of materials and equipment to aircraft design and manufacture. May recommend improvements in testing equipment and techniques. | 79 A 3 | B | \$34.07 \$70,870 |
| 17-2041 Chemical Engineers - Design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles and technology of chemistry, physics, and engineering. | 163 A 7 | B | \$43.10 \$89,650 |
| 17-2051 Civil Engineers - Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Includes architectural, structural, traffic, ocean, and geo-technical engineers. | 1,448 D 22 | B | \$35.06 \$72,920 |
| 17-2061 Computer Hardware Engineers - Research, design, develop, and test computer or computer-related equipment for commercial, industrial, military, or scientific use. May supervise the manufacturing and installation of computer or computer-related equipment and components. | 145 A 7 | B | \$43.15 \$89,740 |
| 17-2071 Electrical Engineers - Design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. | 690 AA 34 | B | \$39.87 \$82,930 |
| 17-2072 Electronics Engineers, Except Computer - Research, design, develop, and test electronic components and systems for commercial, industrial, military, or scientific use utilizing knowledge of electronic theory and materials properties. Design electronic circuits and components for use in fields such as telecommunications, aerospace guidance and propulsion control, acoustics, or instruments and controls. | 474 D 10 | B | \$33.90 \$70,510 |
| 17-2081 Environmental Engineers - Design, plan, or perform engineering duties in the prevention, control, and remediation of environmental health hazards utilizing various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology. | 224 A 7 | B | \$34.92 \$72,630 |
| 17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors - Promote worksite or product safety by applying knowledge of industrial processes, mechanics, chemistry, psychology, and industrial health and safety laws. | 117 A 5 | B | \$30.81 \$64,080 |
| 17-2112 Industrial Engineers - 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. | 1,059 AA 53 | B | \$32.55 \$67,710 |
| 17-2131 Materials Engineers - Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials. Includes those working with composite materials or specializing in one type of material, such as graphite, metal and metal alloys, ceramics and glass, plastics and polymers, and naturally occurring materials. | 92 D 2 | B | \$34.44 \$71,630 |
| 17-2141 Mechanical Engineers - Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of such equipment as centralized heat, gas, water, and steam systems. | 973 BA 28 | B | \$32.37 \$67,320 |
| 17-2171 Petroleum Engineers - Devise methods to improve oil and gas well production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice to achieve economical and satisfactory progress. | 166 AA 14 | B | \$58.13 \$120,900 |
| 17-3011 Architectural and Civil Drafters - Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Utilize knowledge of building materials, engineering practices, and mathematics to complete drawings. | 556 D 12 | PVT | \$20.58 \$42,800 |
| 17-3012 Electrical and Electronics Drafters - Prepare wiring diagrams, circuit board assembly diagrams, and layout drawings used for manufacture, installation, and repair of electrical equipment in factories, power plants, and buildings. | 226 BA 5 | PVT | \$21.34 \$44,400 |
| 17-3013 Mechanical Drafters - Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information. | 404 D 9 | PVT | \$21.81 \$45,370 |
| 17-3022 Civil Engineering Technicians - Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists. | 381 D 7 | A | \$21.02 \$43,730 |
| 17-3023 Electrical and Electronic Engineering Technicians - Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. | 937 BA 26 | A | \$23.05 \$47,950 |
| 17-3025 Environmental Engineering Technicians - Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental pollution, including waste treatment and site remediation. May assist in the development of environmental pollution remediation devices under direction of engineer. | 102 D 2 | A | \$18.44 \$38,350 |
| 17-3027 Mechanical Engineering Technicians - Apply theory and principles of mechanical engineering to modify, develop, and test machinery and equipment under direction of engineering staff or physical scientists. | 100 BA 2 | A | \$21.81 \$45,360 |

First professional degree – FP • Doctoral degree – D • Master's degree – M • Bachelor's or higher degree, plus work experience – B+ • Bachelor's degree – B • Associate degree – A

Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT

Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|--|-----------------|-----------|-------------------------------|
| 17-3031 Surveying and Mapping Technicians - Perform surveying and mapping duties, usually under the direction of a surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes. May calculate mapmaking information and create maps from source data, such as surveying notes, aerial photography, satellite data, or other maps to show topographical features, political boundaries, and other features. May verify accuracy and completeness of topographical maps. | 571 D 10 | MOJT | \$17.24 \$35,850 |
| 19-1012 Food Scientists and Technologists - Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food. | 276 AA 22 | B | \$25.02 \$52,050 |
| 19-1013 Soil and Plant Scientists - Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity. | 173 A 8 | B | \$26.60 \$55,330 |
| 19-1022 Microbiologists - Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Includes medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms. | 207 A 11 | D | \$33.11 \$68,870 |
| 19-1023 Zoologists and Wildlife Biologists - Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management, including the collection and analysis of biological data to determine the environmental effects of present and potential use of land and water areas. | 274 BA 10 | B | \$26.61 \$55,350 |
| 19-1031 Conservation Scientists - Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands from fire and rodent damage. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and forage plants best suited to particular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering. | 177 BA 3 | B | \$32.85 \$68,320 |
| 19-1041 Epidemiologists - Investigate and describe the determinants and distribution of disease, disability, and other health outcomes and develop the means for prevention and control. | 44 A 2 | M | \$29.07 \$60,470 |
| 19-1042 Medical Scientists, Except Epidemiologists - Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation or other research, production, technical writing, or related activities. | 347 AA 18 | D | \$32.36 \$67,300 |
| 19-2031 Chemists - Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge. | 458 BA 18 | B | \$32.21 \$66,990 |
| 19-2032 Materials Scientists - Research and study the structures and chemical properties of various natural and manmade materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications. | 39 AA 5 | B | \$41.02 \$85,310 |
| 19-2041 Environmental Scientists and Specialists, Including Health - Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Utilizing knowledge of various scientific disciplines may collect, synthesize, study, report, and take action based on data derived from measurements or observations of air, food, soil, water, and other sources. | 480 A 20 | M | \$24.08 \$50,080 |
| 19-2042 Geoscientists, Except Hydrologists and Geographers - Study the composition, structure, and other physical aspects of the earth. May use geological, physics, and mathematics knowledge in exploration for oil, gas, minerals, or underground water; or in waste disposal, land reclamation, or other environmental problems. May study the earth's internal composition, atmospheres, oceans, and its magnetic, electrical, and gravitational forces. Includes mineralogists, crystallographers, paleontologists, stratigraphers, geodesists, and seismologists. | 147 A 7 | M | \$33.08 \$68,810 |
| 19-2043 Hydrologists - Research the distribution, circulation, and physical properties of underground and surface waters; study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere. | 30 D 1 | M | \$34.70 \$72,180 |
| 19-3021 Market Research Analysts - Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing campaign based on regional preferences and buying habits. | 817 AA 45 | B | \$28.26 \$58,770 |
| 19-3051 Urban and Regional Planners - Develop comprehensive plans and programs for use of land and physical facilities of local jurisdictions, such as towns, cities, counties, and metropolitan areas. | 195 BA 5 | M | \$23.52 \$48,910 |
| 19-4011 Agricultural and Food Science Technicians - Work with agricultural scientists in food, fiber, and animal research, production, and processing; assist with animal breeding and nutrition work; under supervision, conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. Includes technicians who assist food scientists or food technologists in the research, development, production technology, quality control, packaging, processing, and use of foods. | 296 A 17 | A | \$16.85 \$35,050 |
| 19-4021 Biological Technicians - Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs. | 379 BA 16 | B | \$18.24 \$37,930 |

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 Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT
 Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|--------------------|-----------|-------------------------------|
| 19-4031 Chemical Technicians - Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes, such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences. | 305 AA 21 | A | \$19.57 \$40,720 |
| 19-4091 Environmental Science and Protection Technicians, Including Health - Performs laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health. Under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned. | 141 A 11 | A | \$17.67 \$36,750 |
| 19-4092 Forensic Science Technicians - Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialists in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry. | 153 BA 8 | B | \$18.95 \$39,420 |
| 21-1011 Substance Abuse and Behavioral Disorder Counselors - Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs. | 724 A 30 | B | \$19.22 \$39,970 |
| 21-1014 Mental Health Counselors - Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental health. May help individuals deal with addictions and substance abuse; family, parenting, and marital problems; suicide; stress management; problems with self-esteem; and issues associated with aging and mental and emotional health. | 541 AA 26 | M | \$24.16 \$50,260 |
| 21-1015 Rehabilitation Counselors - Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement. | 447 BA 10 | M | \$19.04 \$39,600 |
| 21-1021 Child, Family, and School Social Workers - Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well-being and the academic functioning of children. May assist single parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage pregnancy, misbehavior, and truancy. May also advise teachers on how to deal with problem children. | 1,454 BA 46 | B | \$17.91 \$37,250 |
| 21-1093 Social and Human Service Assistants - Assist professionals from a wide variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and social and community services and help clients obtain them. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or adult daycare. | 5,356 A 192 | MOJT | \$11.92 \$24,780 |
| 21-2011 Clergy - Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members. | 1,549 BA 36 | M | \$18.85 \$39,210 |
| 23-1011 Lawyers - Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, and manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law. | 3,256 D 55 | FP | \$41.61 \$86,560 |
| 23-2011 Paralegals and Legal Assistants - Assist lawyers by researching legal precedent, investigating facts, or preparing legal documents. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action. | 1,487 D 14 | A | \$16.94 \$35,240 |
| 23-2091 Court Reporters - Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings or other information. Includes stenocaptioners who operate computerized stenographic captioning equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers. | 121 AA 8 | PVT | \$18.19 \$37,840 |
| 23-2093 Title Examiners, Abstractors, and Searchers - Search real estate records, examine titles, or summarize pertinent legal or insurance details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching public and private records for law firms, real estate agencies, or title insurance companies. | 864 D 11 | MOJT | \$13.63 \$28,350 |
| 25-2011 Preschool Teachers, Except Special Education - Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification. | 4,269 A 126 | PVT | \$12.69 \$26,390 |
| 25-2012 Kindergarten Teachers, Except Special Education - Teach elemental natural and social science, personal hygiene, music, art, and literature to children from 4 to 6 years old. Promote physical, mental, and social development. May be required to hold State certification. | 2,550 A 91 | B | N/A \$43,220 |
| 25-2021 Elementary School Teachers, Except Special Education - Teach pupils in public or private schools at the elementary level basic academic, social, and other formative skills. | 12,076 A 466 | B | N/A \$43,380 |
| 25-2022 Middle School Teachers, Except Special and Vocational Education - Teach students in public or private schools in one or more subjects at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable State laws and regulations. | 6,289 A 240 | B | N/A \$45,210 |
| 25-2031 Secondary School Teachers, Except Special and Vocational Education - Instruct students in secondary public or private schools in one or more subjects at the secondary level, such as English, mathematics, or social studies. May be designated according to subject matter specialty, such as typing instructors, commercial teachers, or English teachers. | 10,741 A 428 | B | N/A \$45,770 |
| 25-2032 Vocational Education Teachers, Secondary School - Teach or instruct vocational or occupational subjects at the secondary school level. | 1,418 A 56 | B+ | N/A \$48,470 |

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 Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|--------------------|-----------|-------------------------------|
| 25-2043 Special Education Teachers, Secondary School - Teach secondary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. | 1,197 A 46 | B | N/A \$46,440 |
| 25-4012 Curators - Administer affairs of museum and conduct research programs. Direct instructional, research, and public service activities of institution. | 50 A 3 | M | \$20.22 \$42,070 |
| 25-4013 Museum Technicians and Conservators - Prepare specimens, such as fossils, skeletal parts, lace, and textiles, for museum collection and exhibits. May restore documents or install, arrange, and exhibit materials. | 67 BA 3 | B | \$16.54 \$34,400 |
| 25-4021 Librarians - Administer libraries and perform related library services. Work in a variety of settings, including public libraries, schools, colleges and universities, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials; and furnishing reference, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information. | 1,614 BA 52 | M | \$24.64 \$51,250 |
| 25-4031 Library Technicians - Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelve books; remove or repair damaged books; register patrons; check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files. Includes bookmobile drivers who operate bookmobiles or light trucks that pull trailers to specific locations on a predetermined schedule and assist with providing services in mobile libraries. | 1,062 BA 66 | PVT | \$11.53 \$23,970 |
| 25-9031 Instructional Coordinators - Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. | 739 AA 36 | M | \$27.08 \$56,320 |
| 25-9041 Teacher Assistants - Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services. | 10,102 A 300 | SOJT | N/A \$19,010 |
| 27-1011 Art Directors - Formulate design concepts and presentation approaches, and direct workers engaged in art work, layout design, and copy writing for visual communications media, such as magazines, books, newspapers, and packaging. | 347 D 7 | B+ | \$28.11 \$58,470 |
| 27-1021 Commercial and Industrial Designers - Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design. | 59 A 3 | B | \$23.19 \$48,230 |
| 27-1023 Floral Designers - Design, cut, and arrange live, dried, or artificial flowers and foliage. | 526 D 16 | SOJT | \$10.40 \$21,620 |
| 27-1024 Graphic Designers - Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects. | 1,371 A 59 | B | \$17.58 \$36,580 |
| 27-1025 Interior Designers - Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design. | 171 D 5 | A | \$17.05 \$35,460 |
| 27-1026 Merchandise Displayers and Window Trimmers - Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions. | 866 BA 33 | MOJT | \$16.49 \$34,290 |
| 27-2012 Producers and Directors - Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of guests, set design, sound, special effects, and choreography. | 254 D 8 | B+ | \$22.08 \$45,930 |
| 27-3011 Radio and Television Announcers - Talk on radio or television. May interview guests, act as master of ceremonies, read news flashes, identify station by giving call letters, or announce song title and artist. | 371 D 10 | LOJT | \$13.87 \$28,850 |
| 27-3022 Reporters and Correspondents - Collect and analyze facts about newsworthy events by interview, investigation, or observation. Report and write stories for newspaper, news magazine, radio, or television. | 430 D 12 | B | \$13.74 \$28,590 |
| 27-3031 Public Relations Specialists - Engage in promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. May prepare and arrange displays, and make speeches. | 1,711 A 71 | B | \$22.46 \$46,720 |
| 27-3041 Editors - Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication. | 679 D 19 | B | \$19.80 \$41,190 |
| 27-3042 Technical Writers - Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work. | 146 A 5 | B | \$21.95 \$45,660 |

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 Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|--------------------|-----------|-------------------------------|
| 27-4021 Photographers - Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints. | 987 D 17 | LOJT | \$12.54 \$26,090 |
| 27-4032 Film and Video Editors - Edit motion picture soundtracks, film, and video. | 42 A 2 | B | \$19.97 \$41,530 |
| 29-1011 Chiropractors - Adjust spinal column and other articulations of the body to correct abnormalities of the human body believed to be caused by interference with the nervous system. Examine patient to determine nature and extent of disorder. Manipulate spine or other involved area. May utilize supplementary measures, such as exercise, rest, water, light, heat, and nutritional therapy. | 456 BA 12 | FP | \$33.09 \$68,830 |
| 29-1021 Dentists, General - Diagnose and treat diseases, injuries, and malformations of teeth and gums and related oral structures. May treat diseases of nerve, pulp, and other dental tissues affecting vitality of teeth. | 770 A 31 | FP | \$82.07 \$170,700 |
| 29-1031 Dietitians and Nutritionists - Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research. | 469 BA 17 | B | \$24.21 \$50,370 |
| 29-1041 Optometrists - Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment. May prescribe therapeutic drugs to treat specific eye conditions. | 403 A 19 | FP | \$43.84 \$91,180 |
| 29-1051 Pharmacists - Compound and dispense medications following prescriptions issued by physicians, dentists, or other authorized medical practitioners. | 2,842 A 106 | FP | \$48.56 \$101,010 |
| 29-1062 Family and General Practitioners - Diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population. | 1,048 BA 26 | FP | \$96.09 \$199,860 |
| 29-1063 Internists, General - Diagnose and provide non-surgical treatment of diseases and injuries of internal organ systems. Provide care mainly for adults who have a wide range of problems associated with the internal organs. | 161 BA 5 | FP | \$102.03 \$212,210 |
| 29-1064 Obstetricians and Gynecologists - Diagnose, treat, and help prevent diseases of women, especially those affecting the reproductive system and the process of childbirth. | 190 BA 4 | FP | \$112.31 \$233,600 |
| 29-1065 Pediatricians, General - Diagnose, treat, and help prevent children's diseases and injuries. | 109 BA 3 | FP | \$97.77 \$203,370 |
| 29-1111 Registered Nurses - Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Includes advance practice nurses such as: nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by RNs who have specialized formal, post-basic education and who function in highly autonomous and specialized roles. | 23,631 A 688 | A | \$27.16 \$56,500 |
| 29-1121 Audiologists - Assess and treat persons with hearing and related disorders. May fit hearing aids and provide auditory training. May perform research related to hearing problems. | 109 BA 3 | FP | \$33.09 \$68,830 |
| 29-1122 Occupational Therapists - Assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled persons. | 922 A 33 | M | \$36.92 \$76,790 |
| 29-1123 Physical Therapists - Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury. | 1,800 A 61 | M | \$35.74 \$74,340 |
| 29-1124 Radiation Therapists - Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization. | 90 AA 5 | A | \$34.65 \$72,070 |
| 29-1127 Speech-Language Pathologists - Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems. | 1,653 A 60 | M | \$29.03 \$60,390 |
| 29-1131 Veterinarians - Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function, such as research and development, consultation, administration, technical writing, sale or production of commercial products, or rendering of technical services to commercial firms or other organizations. Includes veterinarians who inspect livestock. | 360 BA 9 | FP | \$37.47 \$77,940 |
| 29-2011 Medical and Clinical Laboratory Technologists - Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff. | 1,370 BA 24 | B | \$23.61 \$49,110 |

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 Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|---------------------|-----------|-------------------------------|
| 29-2012 Medical and Clinical Laboratory Technicians - Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist. | 1,197 BA 23 | A | \$15.54 \$32,330 |
| 29-2021 Dental Hygienists - Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants. | 1,357 AA 66 | A | \$29.26 \$60,850 |
| 29-2031 Cardiovascular Technologists and Technicians - Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary-functions, lung capacity, and similar tests. | 446 A 13 | A | \$21.37 \$44,450 |
| 29-2032 Diagnostic Medical Sonographers - Produce ultrasonic recordings of internal organs for use by physicians. | 474 BA 8 | A | \$27.04 \$56,230 |
| 29-2034 Radiologic Technologists and Technicians - Take X-rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other modalities, such as computed tomography and magnetic resonance. Includes workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen. | 1,931 BA 35 | A | \$21.39 \$44,490 |
| 29-2041 Emergency Medical Technicians and Paramedics - Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities. | 1,893 A 58 | PVT | \$13.85 \$28,820 |
| 29-2051 Dietetic Technicians - Assist dietitians in the provision of food service and nutritional programs. Under the supervision of dietitians, may plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals. | 273 BA 8 | PVT | \$11.67 \$24,270 |
| 29-2052 Pharmacy Technicians - Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications. | 3,576 AA 182 | MOJT | \$11.63 \$24,190 |
| 29-2054 Respiratory Therapy Technicians - Provide specific, well defined respiratory care procedures under the direction of respiratory therapists and physicians. | 286 D 6 | PVT | \$19.26 \$40,070 |
| 29-2055 Surgical Technologists - Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. | 1,007 A 43 | PVT | \$16.75 \$34,840 |
| 29-2061 Licensed Practical and Licensed Vocational Nurses - Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required. | 12,627 BA 505 | PVT | \$16.48 \$34,280 |
| 29-2071 Medical Records and Health Information Technicians - Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information for health requirements and standards. | 1,532 A 46 | A | \$14.93 \$31,050 |
| 29-9011 Occupational Health and Safety Specialists - Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. | 384 BA 13 | B | \$26.56 \$55,240 |
| Service Occupations | | | |
| 31-1011 Home Health Aides - Provide routine, personal healthcare, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility. | 4,614 AA 246 | SOJT | \$8.83 \$18,360 |
| 31-1012 Nursing Aides, Orderlies, and Attendants - Provide basic patient care under direction of nursing staff. Perform duties, such as feed, bathe, dress, groom, or move patients, or change linens. | 19,079 BA 316 | PVT | \$10.05 \$20,910 |
| 31-2021 Physical Therapist Assistants - Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with State laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training. | 582 A 21 | A | \$22.05 \$45,860 |
| 31-2022 Physical Therapist Aides - Under close supervision of a physical therapist or physical therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing the patient and the treatment area. | 496 AA 21 | SOJT | \$10.18 \$21,170 |
| 31-9091 Dental Assistants - Assist dentist, set up patient and equipment, and keep records. | 2,583 AA 119 | MOJT | \$13.32 \$27,700 |
| 31-9092 Medical Assistants - Perform administrative and certain clinical duties under the direction of physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. | 1,933 A 45 | MOJT | \$12.51 \$26,030 |

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Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|-----------------------|-----------|-------------------------------|
| 31-9093 Medical Equipment Preparers - Prepare, sterilize, install, or clean laboratory or healthcare equipment. May perform routine laboratory tasks and operate or inspect equipment. | 255 BA 5 | SOJT | \$12.87 \$26,770 |
| 31-9095 Pharmacy Aides - Record drugs delivered to the pharmacy, store incoming merchandise, and inform the supervisor of stock needs. May operate cash register and accept prescriptions for filling. | 417 D 4 | SOJT | \$9.18 \$19,100 |
| 33-2011 Fire Fighters - Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster management. | 2,875 BA 88 | LOJT | \$17.15 \$35,660 |
| 33-2021 Fire Inspectors and Investigators - Inspect buildings to detect fire hazards and enforce local ordinances and State laws. Investigate and gather facts to determine cause of fires and explosions. | 64 BA 2 | W | \$22.06 \$45,890 |
| 33-3012 Correctional Officers and Jailers - Guard inmates in penal or rehabilitative institution in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point. Includes deputy sheriffs and police who spend the majority of their time guarding prisoners in correctional institutions. | 5,328 BA 125 | MOJT | \$15.04 \$31,280 |
| 33-3021 Detectives and Criminal Investigators - Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes. | 513 BA 9 | W | \$24.97 \$51,950 |
| 33-3041 Parking Enforcement Workers - Patrol assigned area, such as public parking lot or section of city to issue tickets to overtime parking violators and illegally parked vehicles. | 422 A 14 | SOJT | \$9.81 \$20,400 |
| 33-3051 Police and Sheriff's Patrol Officers - Maintain order, enforce laws and ordinances, and protect life and property in an assigned patrol district. Perform combination of following duties: patrol a specific area on foot or in a vehicle; direct traffic; issue traffic summonses; investigate accidents; apprehend and arrest suspects, or serve legal processes of courts. | 5,768 BA 154 | LOJT | \$17.61 \$36,620 |
| 35-2011 Cooks, Fast Food - Prepare and cook food in a fast food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment. | 10,113 A 424 | SOJT | \$8.21 \$17,070 |
| 35-2014 Cooks, Restaurant - Prepare, season, and cook soups, meats, vegetables, desserts, or other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu. | 6,553 BA 208 | LOJT | \$9.34 \$19,420 |
| 35-2021 Food Preparation Workers - Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea. | 7,130 BA 317 | SOJT | \$8.76 \$18,210 |
| 35-3021 Combined Food Preparation and Serving Workers, Including Fast Food - Perform duties which combine both food preparation and food service. | 19,727 A 687 | SOJT | \$8.12 \$16,880 |
| 35-3031 Waiters and Waitresses - Take orders and serve food and beverages to patrons at tables in dining establishment. | 17,164 BA 1,052 | SOJT | \$8.76 \$18,220 |
| 37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners - Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs, and cleaning snow or debris from sidewalk. | 17,535 D 312 | SOJT | \$9.77 \$20,330 |
| 37-2012 Maids and Housekeeping Cleaners - Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels, restaurants, and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and vacuuming. | 9,301 D 153 | SOJT | \$8.48 \$17,650 |
| 37-3011 Landscaping and Groundskeeping Workers - Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units. | 6,970 D 76 | SOJT | \$10.90 \$22,680 |
| 39-2021 Nonfarm Animal Caretakers - Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May clean, disinfect, and repair cages, pens, or fish tanks. | 1,600 A 53 | SOJT | \$9.06 \$18,850 |
| 39-5012 Hairdressers, Hairstylists, and Cosmetologists - Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May also apply makeup, dress wigs, perform hair removal, and provide nail and skin care services. | 3,391 D 45 | PVT | \$13.59 \$28,260 |
| 39-5092 Manicurists and Pedicurists - Clean and shape customers' fingernails and toenails. May polish or decorate nails. | 134 BA 3 | PVT | \$13.68 \$28,450 |
| 39-9011 Child Care Workers - Attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. | 10,197 BA 332 | SOJT | \$8.37 \$17,400 |

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Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT

Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|--|-----------------------|-----------|-------------------------------|
| 39-9021 Personal and Home Care Aides - Assist elderly or disabled adults with daily living activities at the person's home or in a daytime non-residential facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide meals and supervised activities at non-residential care facilities. May advise families, the elderly, and disabled on such things as nutrition, cleanliness, and household utilities. | 9,708 AA 616 | SOJT | \$8.49 \$17,650 |
| 41-1011 First-Line Supervisors/Managers of Retail Sales Workers - Directly supervise sales workers in a retail establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties. | 18,189 D 369 | W | \$15.61 \$32,470 |
| 41-1012 First-Line Supervisors/Managers of Non-Retail Sales Workers - Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties, such as budgeting, accounting, and personnel work, in addition to supervisory duties. | 3,337 BA 96 | W | \$32.17 \$66,920 |
| 41-2011 Cashiers - Receive and disburse money in establishments other than financial institutions. Usually involves use of electronic scanners, cash registers, or related equipment. Often involved in processing credit or debit card transactions and validating checks. | 29,314 D 1,739 | SOJT | \$8.66 \$18,000 |
| 41-2031 Retail Salespersons - Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment. | 34,422 BA 1,083 | SOJT | \$10.81 \$22,470 |
| 41-3011 Advertising Sales Agents - Sell or solicit advertising, including graphic art, advertising space in publications, custom made signs, or TV and radio advertising time. May obtain leases for outdoor advertising sites or persuade retailer to use sales promotion display items. | 1,270 BA 27 | MOJT | \$19.24 \$40,010 |
| 41-3021 Insurance Sales Agents - Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company. | 2,757 D 61 | PVT | \$28.05 \$58,340 |
| 41-3041 Travel Agents - Plan and sell transportation and accommodations for travel agency customers. Determine destination, modes of transportation, travel dates, costs, and accommodations required. | 163 D 1 | PVT | \$13.51 \$28,090 |
| 41-9022 Real Estate Sales Agents - Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Includes agents who represent buyer. | 1,643 D 23 | PVT | \$18.59 \$38,660 |
| Office and Administrative Support Occupations | | | |
| 43-3011 Bill and Account Collectors - Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; keeping records of collection and status of accounts. | 3,140 A 128 | SOJT | \$14.14 \$29,420 |
| 43-3031 Bookkeeping, Accounting, and Auditing Clerks - Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers. | 19,649 BA 386 | MOJT | \$14.61 \$30,400 |
| 43-3071 Tellers - Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions. | 6,721 BA 337 | SOJT | \$10.61 \$22,070 |
| 43-4031 Court, Municipal, and License Clerks - Perform clerical duties in courts of law, municipalities, and governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council; answer official correspondence; keep fiscal records and accounts; issue licenses or permits; record data, administer tests, or collect fees. | 1,197 BA 38 | SOJT | \$13.06 \$27,160 |
| 43-4051 Customer Service Representatives - Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. | 14,956 AA 874 | MOJT | \$13.83 \$28,760 |
| 43-4081 Hotel, Motel, and Resort Desk Clerks - Accommodate hotel, motel, and resort patrons by registering and assigning rooms to guests, issuing room keys, transmitting and receiving messages, keeping records of occupied rooms and guests' accounts, making and confirming reservations, and presenting statements to and collecting payments from departing guests. | 2,329 BA 96 | SOJT | \$8.54 \$17,750 |
| 43-4111 Interviewers, Except Eligibility and Loan - Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms. | 2,628 BA 87 | SOJT | \$11.49 \$23,890 |
| 43-4121 Library Assistants, Clerical - Compile records, sort and shelve books, and issue and receive library materials such as pictures, cards, slides and microfilm. Locate library materials for loan and replace material in shelving area, stacks, or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials. | 1,514 A 82 | SOJT | \$9.52 \$19,800 |
| 43-4131 Loan Interviewers and Clerks - Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan. | 1,484 D 33 | SOJT | \$14.26 \$29,650 |
| 43-4141 New Accounts Clerks - Interview persons desiring to open bank accounts. Explain banking services available to prospective customers and assist them in preparing application form. | 688 D 20 | W | \$13.54 \$28,160 |

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 Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|--|---------------------|-----------|-------------------------------|
| 43-4151 Order Clerks - Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities. Duties include informing customers of receipt, prices, shipping dates, and delays; preparing contracts; and handling complaints. | 1,379 D 39 | SOJT | \$12.67 \$26,350 |
| 43-4161 Human Resources Assistants, Except Payroll and Timekeeping - Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports on ability, and date of and reason for termination. Compile and type reports from employment records. File employment records. Search employee files and furnish information to authorized persons. | 1,970 D 56 | SOJT | \$15.26 \$31,730 |
| 43-4171 Receptionists and Information Clerks - Answer inquiries and obtain information for general public, customers, visitors, and other interested parties. Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization. | 10,025 BA 348 | SOJT | \$10.82 \$22,500 |
| 43-5011 Cargo and Freight Agents - Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals, and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to loading platform. Prepare and examine bills of lading to determine shipping charges and tariffs. | 864 D 20 | MOJT | \$18.72 \$38,930 |
| 43-5031 Police, Fire, and Ambulance Dispatchers - Receive complaints from public concerning crimes and police emergencies. Broadcast orders to police patrol units in vicinity of complaint to investigate. Operate radio, telephone, or computer equipment to receive reports of fires and medical emergencies and relay information or orders to proper officials. | 1,308 BA 30 | MOJT | \$12.08 \$25,130 |
| 43-5032 Dispatchers, Except Police, Fire, and Ambulance - Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business. Duties may include using radio, telephone, or computer to transmit assignments and compiling statistics and reports on work progress. | 2,028 D 39 | MOJT | \$16.91 \$35,170 |
| 43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators - Prepare incoming and outgoing mail for distribution. Examine, sort, and route mail by State, type of mail, or other scheme. Load, operate, and occasionally adjust and repair mail processing, sorting, and canceling machinery. Keep records of shipments, pouches, and sacks; and other duties related to mail handling within the postal service. Must complete a competitive exam. | 1,040 D 9 | SOJT | \$20.52 \$42,690 |
| 43-5071 Shipping, Receiving, and Traffic Clerks - Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products. | 5,025 D 124 | SOJT | \$13.05 \$27,150 |
| 43-6011 Executive Secretaries and Administrative Assistants - Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff. | 8,649 BA 197 | W | \$18.08 \$37,610 |
| 43-6014 Secretaries, Except Legal, Medical, and Executive - Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers. | 18,250 BA 282 | MOJT | \$12.55 \$26,100 |
| 43-9041 Insurance Claims and Policy Processing Clerks - Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives. | 1,513 D 17 | MOJT | \$16.41 \$34,130 |
| 43-9061 Office Clerks, General - Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring limited knowledge of office management systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing. | 24,635 BA 565 | SOJT | \$11.03 \$22,940 |
| Farming, Fishing, and Forestry Occupations | | | |
| 45-2011 Agricultural Inspectors - Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety. | 507 D 10 | W | \$19.05 \$39,630 |
| 45-2041 Graders and Sorters, Agricultural Products - Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition. | 1,378 D 27 | W | \$11.02 \$22,920 |
| 45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse - Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; cleaning, grading, sorting, packing and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. | 4,263 BA 154 | SOJT | \$10.86 \$22,580 |
| 45-2093 Farmworkers, Farm and Ranch Animals - Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. | 928 BA 34 | SOJT | \$10.59 \$22,020 |
| 45-4011 Forest and Conservation Workers - Under supervision, perform manual labor necessary to develop, maintain, or protect forest, forested areas, and woodlands through such activities as raising and transporting tree seedlings; combating insects, pests, and diseases harmful to trees; and building erosion and water control structures and leaching of forest soil. Includes forester aides, seedling pullers, and tree planters. | 110 D 3 | MOJT | \$16.32 \$33,940 |

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Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT
Short-term on-the-job training – SOJT
Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|-------------------|-----------|-------------------------------|
| 45-4021 Fallers - Use axes or chainsaws to fell trees using knowledge of tree characteristics and cutting techniques to control direction of fall and minimize tree damage. | 542 D 14 | MOJT | \$15.46 \$32,150 |
| 45-4022 Logging Equipment Operators - Drive logging tractor or wheeled vehicle equipped with one or more accessories, such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree; to skid, load, unload, or stack logs; or to pull stumps or clear brush. | 1,413 D 35 | MOJT | \$15.74 \$32,730 |
| Construction Trades and Related Occupations | | | |
| 47-2021 Brickmasons and Blockmasons - Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures. | 1,065 D 27 | LOJT | \$19.50 \$40,560 |
| 47-2031 Carpenters - Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Includes brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places. | 5,510 A 139 | LOJT | \$16.24 \$33,780 |
| 47-2041 Carpet Installers - Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials. | 146 BA 5 | MOJT | \$12.61 \$26,230 |
| 47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles - Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors. | 115 BA 4 | MOJT | \$15.10 \$31,400 |
| 47-2051 Cement Masons and Concrete Finishers - Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; use saws to cut expansion joints. | 1,365 D 34 | MOJT | \$14.84 \$30,870 |
| 47-2081 Drywall and Ceiling Tile Installers - Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Includes lathers who fasten wooden, metal, or rockboard lath to walls, ceilings or partitions of buildings to provide support base for plaster, fire-proofing, or acoustical material. | 356 A 9 | MOJT | \$13.81 \$28,720 |
| 47-2111 Electricians - Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. | 5,036 A 180 | LOJT | \$19.66 \$40,880 |
| 47-2121 Glaziers - Install glass in windows, skylights, store fronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops. | 391 D 14 | LOJT | \$14.45 \$30,050 |
| 47-2131 Insulation Workers, Floor, Ceiling, and Wall - Line and cover structures with insulating materials. May work with batt, roll, or blown insulation materials. | 339 A 15 | MOJT | \$12.38 \$25,740 |
| 47-2141 Painters, Construction and Maintenance - Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency. | 1,961 A 56 | MOJT | \$15.79 \$32,840 |
| 47-2151 Pipelayers - Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints. | 541 A 21 | SOJT | \$14.65 \$30,480 |
| 47-2152 Plumbers, Pipefitters, and Steamfitters - Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. | 2,836 A 106 | LOJT | \$19.78 \$41,140 |
| 47-2171 Reinforcing Iron and Rebar Workers - Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. | 103 A 4 | LOJT | \$15.24 \$31,700 |
| 47-2181 Roofers - Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, and related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures. | 577 D 9 | MOJT | \$14.78 \$30,750 |
| 47-2211 Sheet Metal Workers - Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; inspecting, assembling, and smoothing seams and joints of burred surfaces. | 1,490 BA 47 | LOJT | \$14.47 \$30,100 |
| 47-2221 Structural Iron and Steel Workers - Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. | 723 A 22 | LOJT | \$18.00 \$37,450 |
| 47-4011 Construction and Building Inspectors - Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing. | 786 BA 17 | W | \$21.32 \$44,340 |

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Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|--------------------|-----------|-------------------------------|
| 47-4051 Highway Maintenance Workers - Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway. | 1,640 BA 40 | MOJT | \$12.96 \$26,950 |
| 47-5011 Derrick Operators, Oil and Gas - Rig derrick equipment and operate pumps to circulate mud through drill hole. | 934 AA 40 | MOJT | \$19.45 \$40,450 |
| 47-5012 Rotary Drill Operators, Oil and Gas - Set up or operate a variety of drills to remove petroleum products from the earth and to find and remove core samples for testing during oil and gas exploration. | 777 AA 34 | MOJT | \$22.61 \$47,030 |
| 47-5013 Service Unit Operators, Oil, Gas, and Mining - Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. May also perform similar services in mining exploration operations. | 355 AA 20 | MOJT | \$18.22 \$37,890 |
| 47-5021 Earth Drillers, Except Oil and Gas - Operate a variety of drills--such as rotary, churn, and pneumatic--to tap sub-surface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use explosives. Includes horizontal and earth boring machine operators. | 98 AA 7 | MOJT | \$17.15 \$35,660 |
| 47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters - Place and detonate explosives to demolish structures or to loosen, remove, or displace earth, rock, or other materials. May perform specialized handling, storage, and accounting procedures. Includes seismograph shooters. | 408 A 15 | MOJT | \$16.52 \$34,370 |
| 47-5071 Roustabouts, Oil and Gas - Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed. | 472 AA 28 | MOJT | \$18.71 \$38,910 |
| Installation, Maintenance, and Repair Occupations | | | |
| 49-2091 Avionics Technicians - Install, inspect, test, adjust, or repair avionics equipment, such as radar, radio, navigation, and missile control systems in aircraft or space vehicles. | 346 AA 17 | PVT | \$18.45 \$38,380 |
| 49-2092 Electric Motor, Power Tool, and Related Repairers - Repair, maintain, or install electric motors, wiring, or switches. | 251 A 11 | PVT | \$19.44 \$40,440 |
| 49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment - Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas. | 329 BA 8 | PVT | \$21.96 \$45,670 |
| 49-3011 Aircraft Mechanics and Service Technicians - Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. | 728 AA 39 | PVT | \$20.39 \$42,420 |
| 49-3022 Automotive Glass Installers and Repairers - Replace or repair broken windshields and window glass in motor vehicles. | 184 D 4 | LOJT | \$12.86 \$26,740 |
| 49-3023 Automotive Service Technicians and Mechanics - Diagnose, adjust, repair, or overhaul automotive vehicles. | 6,499 D 113 | PVT | \$14.88 \$30,950 |
| 49-3031 Bus and Truck Mechanics and Diesel Engine Specialists - Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Includes mechanics working primarily with automobile diesel engines. | 3,133 A 100 | PVT | \$16.91 \$35,180 |
| 49-9012 Control and Valve Installers and Repairers, Except Mechanical Door - Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors. | 396 BA 7 | MOJT | \$18.65 \$38,790 |
| 49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers - Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves. | 2,819 AA 118 | PVT | \$18.07 \$37,590 |
| 49-9041 Industrial Machinery Mechanics - Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. | 4,933 A 164 | LOJT | \$19.86 \$41,310 |
| 49-9044 Millwrights - Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings. | 872 D 15 | LOJT | \$18.89 \$39,280 |
| 49-9051 Electrical Power-Line Installers and Repairers - Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers. | 1,764 BA 72 | LOJT | \$24.34 \$50,630 |
| 49-9062 Medical Equipment Repairers - Test, adjust, or repair biomedical or electromedical equipment. | 277 AA 15 | A | \$17.80 \$37,010 |

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Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|--|---------------------|-----------|-------------------------------|
| Production Occupations | | | |
| 51-2021 Coil Winders, Tapers, and Finishers - Wind wire coils used in electrical components, such as resistors and transformers, and in electrical equipment and instruments, such as field cores, bobbins, armature cores, electrical motors, generators, and control equipment. | 470 D 8 | SOJT | \$14.54 \$30,250 |
| 51-2031 Engine and Other Machine Assemblers - Construct, assemble, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing. | 239 AA 24 | SOJT | \$14.74 \$30,670 |
| 51-2041 Structural Metal Fabricators and Fitters - Fabricate, lay out, position, align, and fit parts of structural metal products. | 1,041 D 22 | MOJT | \$14.72 \$30,610 |
| 51-2091 Fiberglass Laminators and Fabricators - Laminate layers of fiberglass on molds to form boat decks and hulls, bodies for golf carts, automobiles, or other products. | 308 AA 19 | MOJT | \$15.58 \$32,410 |
| 51-2092 Team Assemblers - Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included. | 14,538 BA 466 | MOJT | \$12.47 \$25,940 |
| 51-3011 Bakers - Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods. | 793 A 28 | LOJT | \$9.93 \$20,650 |
| 51-3022 Meat, Poultry, and Fish Cutters and Trimmers - Use hand tools to perform routine cutting and trimming of meat, poultry, and fish. | 8,829 D 281 | SOJT | \$10.30 \$21,430 |
| 51-3023 Slaughterers and Meat Packers - Work in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. | 1,401 D 45 | MOJT | \$11.60 \$24,120 |
| 51-3092 Food Batchmakers - Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Includes candy makers and cheese makers. | 896 AA 44 | SOJT | \$11.19 \$23,280 |
| 51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic - Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces. | 1,411 A 55 | MOJT | \$16.53 \$34,390 |
| 51-4012 Numerical Tool and Process Control Programmers - Develop programs to control machining or processing of parts by automatic machine tools, equipment, or systems. | 57 D 1 | W | \$22.34 \$46,470 |
| 51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend machines to extrude or draw thermoplastic or metal materials into tubes, rods, hoses, wire, bars, or structural shapes. | 1,044 D 20 | MOJT | \$14.29 \$29,730 |
| 51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material. | 2,731 D 57 | MOJT | \$14.12 \$29,360 |
| 51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend drilling machines to drill, bore, ream, mill, or countersink metal or plastic work pieces. | 605 A 12 | MOJT | \$14.69 \$30,550 |
| 51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend grinding and related tools that remove excess material or burrs from surfaces, sharpen edges or corners, or buff, hone, or polish metal or plastic work pieces. | 598 D 9 | MOJT | \$14.13 \$29,400 |
| 51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend lathe and turning machines to turn, bore, thread, form, or face metal or plastic materials, such as wire, rod, or bar stock. | 554 D 11 | MOJT | \$14.16 \$29,460 |
| 51-4035 Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend milling or planing machines to mill, plane, shape, groove, or profile metal or plastic work pieces. | 218 D 4 | MOJT | \$17.06 \$35,480 |
| 51-4041 Machinists - Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures. | 2,797 BA 51 | LOJT | \$16.65 \$34,630 |
| 51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend metal or plastic molding, casting, or coremaking machines to mold or cast metal or thermoplastic parts or products. | 1,852 AA 88 | MOJT | \$14.19 \$29,520 |
| 51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend more than one type of cutting or forming machine tool or robot. | 962 AA 87 | MOJT | \$14.19 \$29,520 |

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 Postsecondary vocational training – PVT • Work experience in a related occupation – W • Long-term on-the-job training – LOJT • Moderate-term on-the-job training – MOJT
 Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|---|--------------------|-----------|-------------------------------|
| 51-4111 Tool and Die Makers - Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools. | 633 BA 10 | LOJT | \$18.73 \$38,950 |
| 51-4121 Welders, Cutters, Solderers, and Brazers - Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. | 4,824 A 219 | PVT | \$15.89 \$33,060 |
| 51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders - Set up, operate, or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products, components, or assemblies. | 551 A 28 | PVT | \$15.44 \$32,120 |
| 51-6011 Laundry and Dry-Cleaning Workers - Operate or tend washing or dry-cleaning machines to wash or dry-clean industrial or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, fine linens, rugs, and carpets. | 2,192 D 35 | MOJT | \$9.04 \$18,810 |
| 51-7011 Cabinetmakers and Bench Carpenters - Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products. | 967 D 22 | LOJT | \$13.82 \$28,750 |
| 51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing - Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines. | 1,022 BA 31 | MOJT | \$13.01 \$27,070 |
| 51-8013 Power Plant Operators - Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators. | 260 BA 10 | LOJT | \$30.78 \$64,030 |
| 51-8031 Water and Liquid Waste Treatment Plant and System Operators - Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or liquid waste. | 1,394 BA 39 | LOJT | \$15.07 \$31,340 |
| 51-8092 Gas Plant Operators - Distribute or process gas for utility companies and others by controlling compressors to maintain specified pressures on main pipelines. | 182 AA 10 | LOJT | \$26.07 \$54,220 |
| 51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers - Control the operation of petroleum refining or processing units. May specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines. | 376 A 16 | LOJT | \$23.93 \$49,770 |
| 51-9011 Chemical Equipment Operators and Tenders - Operate or tend equipment to control chemical changes or reactions in the processing of industrial or consumer products. Equipment used includes devulcanizers, steam-jacketed kettles, and reactor vessels. | 217 A 7 | MOJT | \$20.31 \$42,230 |
| 51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders - Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber. | 390 BA 10 | MOJT | \$15.67 \$32,600 |
| 51-9022 Grinding and Polishing Workers, Hand - Grind, sand, or polish, using hand tools or hand-held power tools, a variety of metal, wood, stone, clay, plastic, or glass objects. | 236 D 4 | MOJT | \$11.86 \$24,660 |
| 51-9031 Cutters and Trimmers, Hand - Use hand tools or hand-held power tools to cut and trim a variety of manufactured items, such as carpet, fabric, stone, glass, or rubber. | 60 D 1 | SOJT | \$13.22 \$27,500 |
| 51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders - Set up, operate, or tend machines that cut or slice materials, such as glass, stone, cork, rubber, tobacco, food, paper, or insulating material. | 1,041 BA 25 | MOJT | \$14.42 \$29,990 |
| 51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders - Set up, operate, or tend machines, such as glass forming machines, plodder machines, and tuber machines, to shape and form products, such as glassware, food, rubber, soap, brick, tile, clay, wax, tobacco, or cosmetics. | 1,189 A 46 | MOJT | \$14.68 \$30,540 |
| 51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers - Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment. | 5,722 BA 122 | MOJT | \$14.53 \$30,220 |
| 51-9082 Medical Appliance Technicians - Construct, fit, maintain, or repair medical supportive devices, such as braces, artificial limbs, joints, arch supports, and other surgical and medical appliances. | 169 D 3 | LOJT | \$16.45 \$34,210 |
| 51-9111 Packaging and Filling Machine Operators and Tenders - Operate or tend machines to prepare industrial or consumer products for storage or shipment. Includes cannery workers who pack food products. | 3,769 A 108 | SOJT | \$12.47 \$25,930 |
| 51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders - Set up, operate, or tend machines to coat or paint any of a wide variety of products including food, glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials. | 943 BA 30 | MOJT | \$13.19 \$27,430 |

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Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings

| Occupation | Job Outlook | Education | Earnings Hourly/ Annual |
|--|----------------------|-----------|-------------------------------|
| 51-9122 Painters, Transportation Equipment - Operate or tend painting machines to paint surfaces of transportation equipment, such as automobiles, buses, trucks, trains, boats, and airplanes. | 618 BA 20 | MOJT | \$17.72 \$36,860 |
| 51-9123 Painting, Coating, and Decorating Workers - Paint, coat, or decorate articles, such as furniture, glass, plateware, pottery, jewelry, cakes, toys, books, or leather. | 287 AA 17 | SOJT | \$9.56 \$19,880 |
| 51-9191 Cementing and Gluing Machine Operators and Tenders - Operate or tend cementing and gluing machines to join items for further processing or to form a completed product. Processes include joining veneer sheets into plywood; gluing paper; joining rubber and rubberized fabric parts, plastic, simulated leather, or other materials. | 538 BA 19 | MOJT | \$15.57 \$32,380 |
| 51-9195 Molders, Shapers, and Casters, Except Metal and Plastic - Mold, shape, form, cast, or carve products such as food products, figurines, tile, pipes, and candles consisting of clay, glass, plaster, concrete, stone, or combinations of materials. | 184 D 7 | MOJT | \$11.81 \$24,570 |
| 51-9196 Paper Goods Machine Setters, Operators, and Tenders - Set up, operate, or tend paper goods machines that perform a variety of functions, such as converting, sawing, corrugating, banding, wrapping, boxing, stitching, forming, or sealing paper or paperboard sheets into products. | 1,873 BA 33 | MOJT | \$16.75 \$34,830 |
| Transportation and Material Moving Occupations | | | |
| 53-2011 Airline Pilots, Copilots, and Flight Engineers - Pilot and navigate the flight of multi-engine aircraft in regularly scheduled service for the transport of passengers and cargo. Requires Federal Air Transport rating and certification in specific aircraft type used. | 48 BA 2 | B | N/A \$99,740 |
| 53-2012 Commercial Pilots - Pilot and navigate the flight of small fixed or rotary winged aircraft, primarily for the transport of cargo and passengers. Requires Commercial Rating. | 475 AA 33 | PVT | N/A \$66,750 |
| 53-3021 Bus Drivers, Transit and Intercity - Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets. | 404 A 12 | MOJT | \$12.71 \$26,440 |
| 53-3031 Driver/Sales Workers - Drive truck or other vehicle over established routes or within an established territory and sell goods, such as food products, including restaurant take-out items, or pick up and deliver items, such as laundry. May also take orders and collect payments. Includes newspaper delivery drivers. | 3,555 BA 74 | SOJT | \$15.04 \$31,280 |
| 53-3032 Truck Drivers, Heavy and Tractor-Trailer - Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 GVW, to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to unload truck. May require use of automated routing equipment. Requires commercial drivers' license. | 32,385 A 1,213 | SOJT | \$17.94 \$37,320 |
| 53-3033 Truck Drivers, Light or Delivery Services - Drive a truck or van with a capacity of under 26,000 GVW, primarily to deliver or pick up merchandise or to deliver packages within a specified area. May require use of automatic routing or location software. May load and unload truck. | 6,538 D 107 | SOJT | \$13.42 \$27,900 |
| 53-6011 Bridge and Lock Tenders - Operate and tend bridges, canal locks, and lighthouses to permit marine passage on inland waterways, near shores, and at danger points in waterway passages. May supervise such operations. Includes drawbridge operators, lock tenders and operators, and slip bridge operators. | 83 BA 3 | SOJT | \$21.37 \$44,450 |
| 53-6041 Traffic Technicians - Conduct field studies to determine traffic volume, speed, effectiveness of signals, adequacy of lighting, and other factors influencing traffic conditions, under direction of traffic engineer. | 30 BA 1 | SOJT | \$20.62 \$42,880 |
| 53-6051 Transportation Inspectors - Inspect equipment or goods in connection with the safe transport of cargo or people. Includes rail transport inspectors, such as freight inspectors, car inspectors, rail inspectors, and other nonprecision inspectors of other types of transportation vehicles. | 294 D 7 | W | \$26.44 \$54,990 |
| 53-7021 Crane and Tower Operators - Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions. | 619 D 14 | LOJT | \$17.82 \$37,070 |
| 53-7032 Excavating and Loading Machine and Dragline Operators - Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. | 911 A 41 | MOJT | \$15.21 \$31,630 |
| 53-7051 Industrial Truck and Tractor Operators - Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location. | 6,674 BA 202 | SOJT | \$12.64 \$26,290 |
| 53-7072 Pump Operators, Except Wellhead Pumpers - Tend, control, or operate power-driven, stationary, or portable pumps and manifold systems to transfer gases, oil, other liquids, slurries, or powdered materials to and from various vessels and processes. | 250 AA 15 | MOJT | \$18.06 \$37,560 |
| 53-7121 Tank Car, Truck, and Ship Loaders - Load and unload chemicals and bulk solids, such as coal, sand, and grain into or from tank cars, trucks, or ships using material moving equipment. May perform a variety of other tasks relating to shipment of products. May gauge or sample shipping tanks and test them for leaks. | 91 D 3 | MOJT | \$12.37 \$25,740 |

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 Short-term on-the-job training – SOJT

Job Outlook – Total Workers/Growth Rate/Annual Openings



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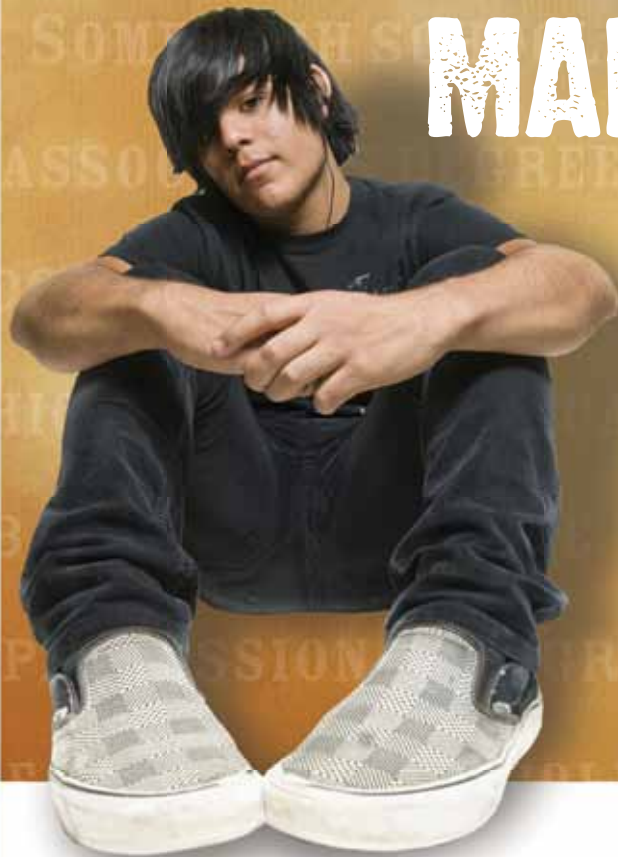
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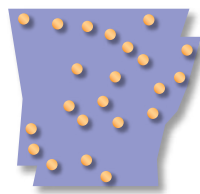


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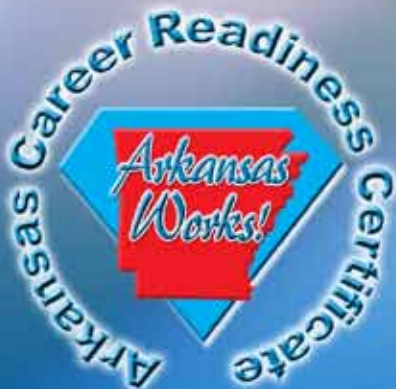
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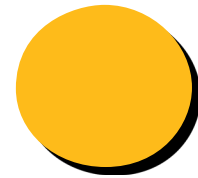
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| % College to Pro | 1.20% | 0.90% | 1.70% | 8.90% |
| % High School to Pro | 0.03% | 0.03% | 0.08% | 0.44% |

Source: National Collegiate Athletic Association. *Estimated Probability of Competing in Athletics Beyond the High School Interscholastic Level.*

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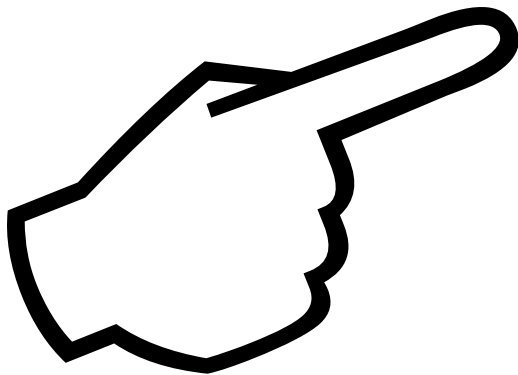
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 - Have specific job or jobs in mind.
 - Review your qualifications for the job.
 - Be prepared to answer broad questions.
- APPEARANCE**
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 - Suitably dressed.
 - Make-up in good taste.
- INTERVIEW**
- Be prompt.
 - Answer questions directly and truthfully.
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| Level Of Education | Name & Location Of School | From:(Mo./Yr.) | To:(Mo./Yr.) | Courses/Subject Of Study | Year Grad. |
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