

CW

Career Watch Arkansas

2010-2011

Jobs for People. People for Jobs.

DWS
Department of
WORKFORCE Services

STEM

SCIENCE,
TECHNOLOGY,
ENGINEERING,
& MATHEMATICS

Occupations

Resumes

Interviews

Colleges

Financial aid

Scholarships



Dear Students:

Time passes quickly, and soon, you will graduate from high school. Graduation is a time for celebration, but it is also a time for contemplating the future and for making critical decisions that may affect the rest of your lives. You must decide about furthering your schooling or choosing a satisfying career. I urge you to do something great with your life, to achieve your own definition of success, and to 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. 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 21st century.

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 decisions will collectively shape our tomorrow. Best wishes for a successful future.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mike Beebe', written in a cursive style.

Mike Beebe

MB:jb

Career Watch Arkansas

STEM - Engineering and Technology

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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13 Find out what Engineering and Technology occupations are in demand and how much they pay.

14 Take a closer look at some occupations in Engineering and Technology.

15 What are the Engineering and Technology education programs?

Green Occupations

Discover some of the Engineering and Technology occupations that help our environment.

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Looking
for your
Career
Path?

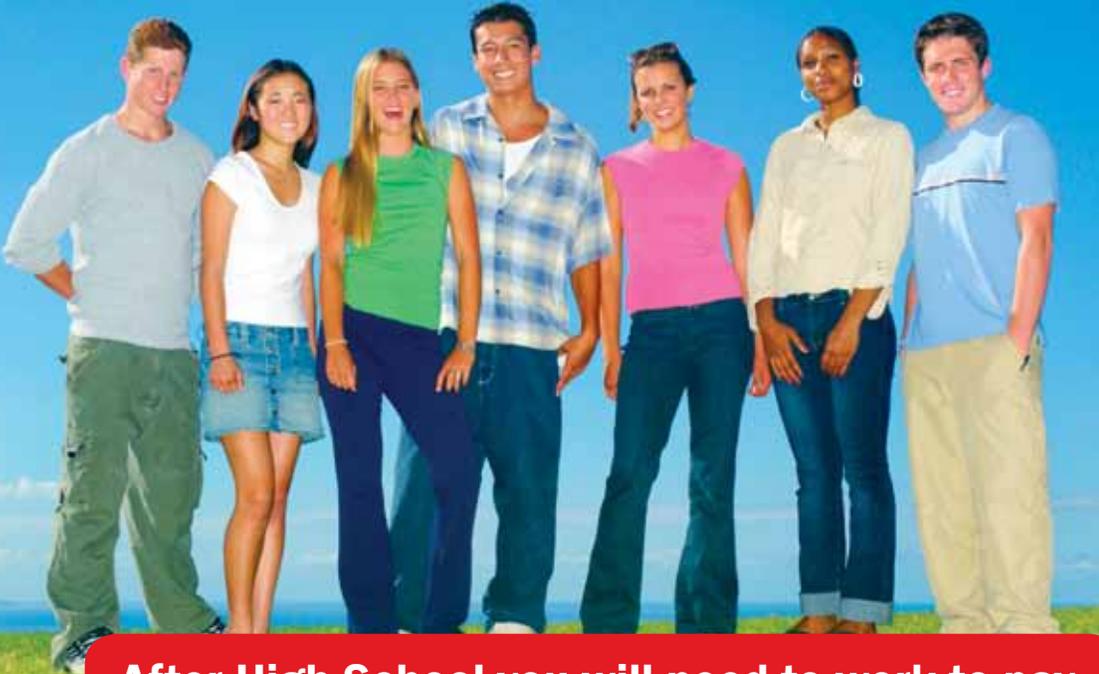
ARKOSCAR Can Help
www.arkoscar.org

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

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 occupation 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



R 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 extracurricular 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.
- 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.

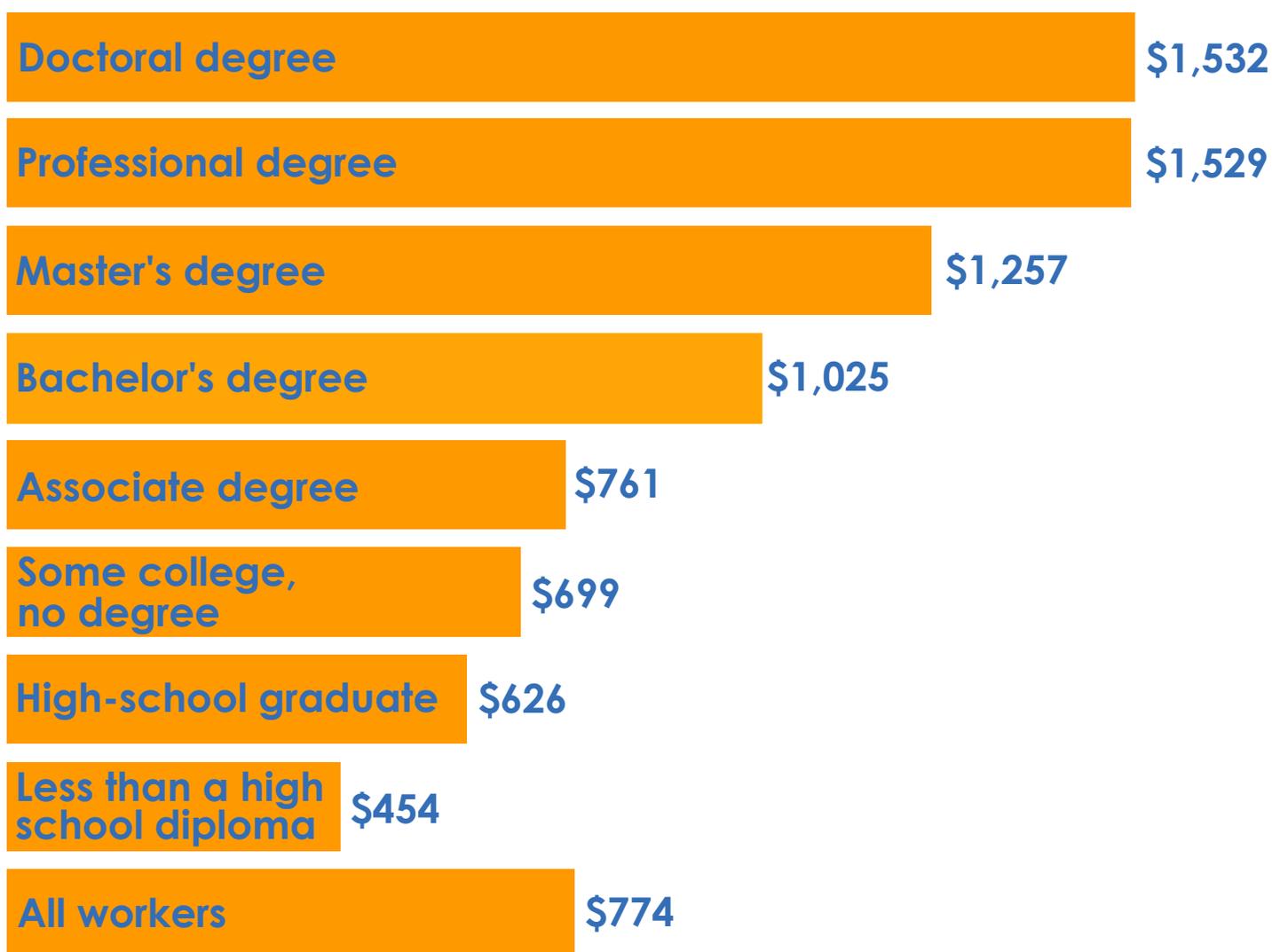
12th

- Complete the Free Application for Federal Student Aid to qualify for financial aid, scholarships, and grants after January 1 of your senior year.
- Complete Arkansas' online YOUniversal application between September 1st and June 1st to apply for state scholarships and grants.
- Attend spring or summer orientation programs for incoming college freshmen.

Education Pays



Continuing your education after high school pays off. College graduates over the age of 25 with a bachelor's degree earn nearly \$400 more a week than a high school graduate.



National Weekly Median Earnings for persons age 25 and over in 2009 dollars. Earnings are for full-time wage and salary workers.

Source: Bureau of Labor Statistics, Current Population Survey

Does Your Resume Rock? **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 that counts, 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 extracurricular 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 move 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.

Combination

A combination of the chronological and functional resumes, this type your 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.

Functional

This type groups your work experience and skills together and is best 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.

- The Department of Workforce Services provides a Pocket Resume, available at the back of this magazine and at www.discover.arkansas.gov.
- Click on “Employment” on the website and scroll to the bottom of the page to download a printable PDF version.
- Just fill in the information for easy reference when filling out job applications.



Quick Tips

Limit 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.

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



The Interview

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



What to take with you

Social Security card

Driver's license

Extra resumes and references

Paper and pen

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. You're there for a job interview, and don't bad-mouth former employers.

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 offer?

What's Hot... What's Not ...



Top 20 Occupations for Growth

- Combined Food Preparation and Serving Workers, Including Fast Food
- Registered Nurses
- Personal and Home Care Aides
- Nursing Aides, Orderlies, and Attendants
- Cooks, Fast Food
- Customer Service Representatives
- Elementary School Teachers, Except Special Education
- Licensed Practical and Licensed Vocational Nurses
- Home Health Aides
- Secondary School Teachers, Except Special and Vocational Education
- Teacher Assistants
- Middle School Teachers, Except Special and Vocational Education
- Social and Human Service Assistants
- Network Systems and Data Communications Analysts
- Child Care Workers
- Accountants and Auditors
- Preschool Teachers, Except Special Education
- Office Clerks, General
- Pharmacy Technicians
- Security Guards



Top 20 Occupations for Decline

- Farmers and Ranchers
- Truck Drivers, Heavy and Tractor-Trailer
- Team Assemblers
- Laborers and Freight, Stock, and Material Movers, Hand
- Meat, Poultry, and Fish Cutters and Trimmers
- Helpers--Production Workers
- Machine Feeders and Offbearers
- Cashiers
- Industrial Truck and Tractor Operators
- General and Operations Managers
- First-Line Supervisors/Managers of Production and Operating Workers
- Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
- Inspectors, Testers, Sorters, Samplers, and Weighers
- Machinists
- Shipping, Receiving, and Traffic Clerks
- Tellers
- Welders, Cutters, Solderers, and Brazers
- Packers and Packagers, Hand
- Electricians
- Logging Equipment Operators

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 2011.

Work Experience or On-The-Job Training

1. Cashiers
2. Retail Salespersons
3. Waiters and Waitresses
4. Combined Food Preparation and Serving Workers, Including Fast Food
5. Laborers and Freight, Stock, and Material Movers, Hand
6. Customer Service Representatives
7. Cooks, Fast Food
8. Truck Drivers, Heavy and Tractor-Trailer
9. Farmers and Ranchers
10. Personal and Home Care Aides



Associate Degree or Vocational Training

1. Registered Nurses
2. Licensed Practical and Licensed Vocational Nurses
3. Nursing Aides, Orderlies, and Attendants
4. Welders, Cutters, Solderers, and Brazers
5. Preschool Teachers, Except Special Education
6. Computer Support Specialists
7. Automotive Service Technicians and Mechanics
8. Emergency Medical Technicians and Paramedics
9. Hairdressers, Hairstylists, and Cosmetologists
10. Insurance Sales Agents



Bachelor's Degree or Higher

1. Elementary School Teachers, Except Special Education
2. Secondary School Teachers, Except Special and Vocational Education
3. General and Operations Managers
4. Middle School Teachers, Except Special and Vocational Education
5. Accountants and Auditors
6. Network Systems and Data Communications Analysts
7. Computer Systems Analysts
8. Computer Programmers
9. Management Analysts
10. Training and Development Specialists





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, text messaging 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 Engineering and Technology

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.

Microsystem Engineer

Photos Courtesy: National Science Foundation

With advancing technologies and the demand to update and improve existing products, a career in Engineering and Technology will always be in demand. From developing a nanoparticle for use in medicines to improving current cell phone technology, a career in Engineering and Technology can be exciting, as well as useful to our way of life. Engineering and Technology occupations include those occupations that use the principles of mathematics, engineering, and science to develop these new products and technologies and test and maintain current technologies.

A few occupations in this career cluster include Aerospace Engineers, Petroleum Engineers, Energy

Engineers, Architectural Drafters, Electronics Engineering Technicians, and Nanotechnology Engineering Technologists.

This career cluster employs more than 11,000 people in Arkansas. Employment in Engineering and Technology occupations is expected to continue to grow 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. Some of these future job opportunities will be found in the expanding fields of environmental protection and health care.

Education and training for careers in Engineering and Technology is specialized. Most entry-level jobs in engineering require a bachelor's degree, and engineers need to continue their education to keep up with changes and improvements in technology. Engineering technicians and drafters need to complete an associate degree or other postsecondary training to gain entry-level jobs.

Some of the training and education programs include agricultural engineering, electrical engineering, biomedical engineering, microelectronic-photonics, computer-aided drafting and design, renewable energy technology, and environmental health and safety technology.

Engineering and Technology jobs require a strong background in math and science. Employers look for workers who are analytical, creative, inquisitive, and detailed orientated.



Precision Agriculture

In Demand Occupations

In demand occupations are 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.

	Mean Wages Per Hour/Annual
Civil Engineers	\$33.32 / \$69,300
Computer Software Engineers, Applications	\$30.84 / \$64,150
Computer Software Engineers, Systems Software	\$34.32 / \$71,400
Computer Support Specialists	\$18.02 / \$37,480
Computer Systems Analysts	\$29.66 / \$61,700
Database Administrators	\$29.31 / \$60,960
Electrical Engineers	\$37.97 / \$78,970
General and Operations Managers	\$42.98 / \$89,410
Industrial Engineers	\$31.91 / \$66,370
Mechanical Engineers	\$32.07 / \$66,710
Network and Computer Systems Administrators	\$28.46 / \$59,200
Network Systems and Data Communications Analysts	\$32.84 / \$68,300
Statisticians	\$19.75 / \$41,090

Occupational Employment Statistics Wage Survey/May 2009 Arkansas Mean Wage

Green Occupations

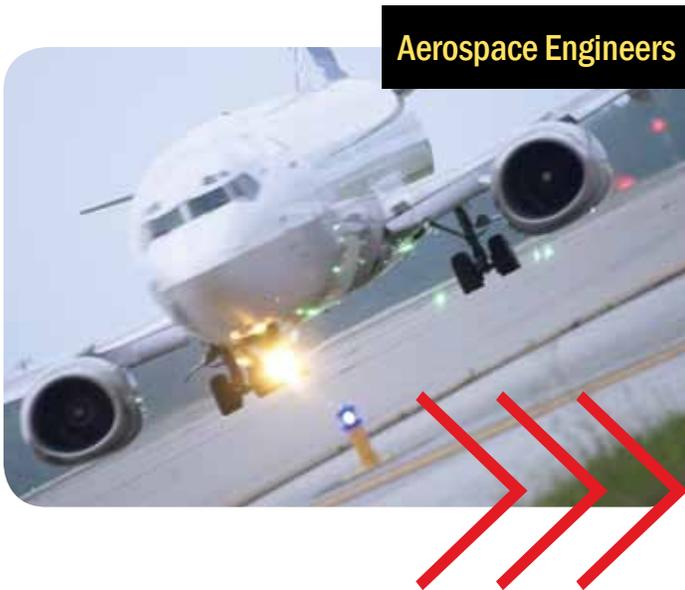
Occupations where environmental protection, preservation or improvement is central to the employee's work and where the environment benefits from specific job-related skills of the employees. Here are a few examples.

- Aerospace Engineers
- Agricultural Engineers
- Architectural and Civil Drafters
- Chemical Engineers
- Civil Engineers
- Electrical Engineers
- Electrical and Electronic Engineering Technicians
- Electro-Mechanical Technicians
- Electronics Engineers, Except Computer
- Environmental Engineers
- Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
- Industrial Engineers
- Mechanical Engineers
- Nuclear Engineers
- Surveying and Mapping Technicians



I can be a...

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



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.

Sample of reported job titles: Aerospace Engineer, Flight Test Engineer, Design Engineer, Systems Engineer, Structures Engineer, Test Engineer, Aeronautical Engineer, Aerospace Stress Engineer, Avionics Engineer, Flight Systems Test Engineer

Entry Pay: \$33.05 per hour/\$68,740 annual

2011 Projected Employment: 84

Education: Bachelor's Degree

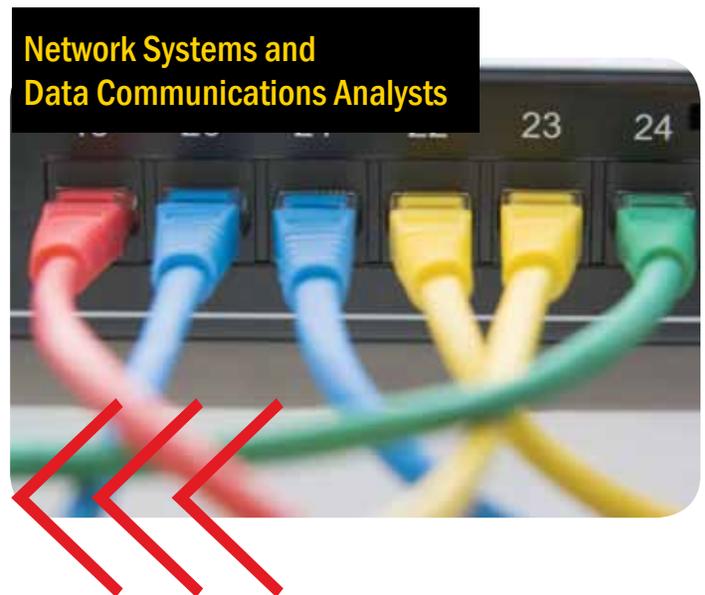
Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Research and recommend network and data communications hardware and software. Include telecommunications specialists who deal with the interfacing of computer and communications equipment. May supervise computer programmers.

Sample of reported job titles: Network Analyst, Network Engineer, Systems Engineer, Systems Administrator, Systems Analyst, Network Specialist, Network Technician, System Programmer, Telecommunications Manager, Systems Specialist

Entry Pay: \$32.84 per hour/\$68,300 annual

2011 Projected Employment: 2,757

Education: Bachelor's Degree



Network Systems and Data Communications Analysts

Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate radio transmitter to broadcast radio and television programs.

Sample of reported job titles: Master Control Operator (MCO), Broadcast Engineer, Broadcast Technician, Production Assistant, Broadcast Maintenance Engineer, Broadcast Operations Engineer, Board Operator, Master Control Supervisor, Newscast Director, Operations Technician

Entry Pay: \$13.04 per hour/\$27,110 annual

2011 Projected Employment: 436

Education: Associate Degree



Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.

Sample of reported job titles: Technical Writer, Information Developer, Documentation Specialist, Documentation Designer, Engineering Writer, Technical Communicator

Entry Pay: \$22.79 per hour/\$47,410 annual

2011 Projected Employment: 153

Education: Bachelor's Degree

What are the Engineering and Technology Degree Programs?

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

Biological Engineering

Environmental Engineering

Environmental Health & Safety Technology

Lean Technology

Power Plant Technology

Renewable Energy Technology

Microcomputer Technician

Spatial Information Systems

Technology Innovation

Transportation Engineering

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

Engineering & Technology

Career Pathways

In high school, career pathways 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 Engineering and Technology pathways prepare 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 table on this page lists the classes for the three different pathways in Engineering and Technology and what grade the classes are offered in the state's secondary schools. On the next page you will find the other career pathways that are offered across Arkansas.

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

Engineering and Technology Pathway

Program of Study (*Core Requirement)	Units of Credit	9th	10th	11th	12th
Drafting and Design					
Drafting & Design*	1	•	•	•	•
Engineering/CAD I*	1	•	•	•	•
Engineering/CAD Lab	1	•	•	•	•
Engineering/CAD II	1		•	•	•
Electronics					
Electronics I*	1	•	•	•	•
Electronics Lab	1	•	•	•	•
Electronics II	2		•	•	•
Pre-engineering					
Aerospace Engineering	1			•	•
Biotechnical Engineering	1			•	•
Civil Engineering and Architecture	1			•	•
Computer-Integrated Manufacturing	1			•	•
Digital Electronics	1	•	•	•	•
Engineering Design & Development	1				•
Introduction to Engineering Design*	1	•	•	•	•
Principles of Engineering*	1	•	•	•	•

More Career Pathways

Agricultural Science and Technology

Cluster: AGRICULTURE, FOOD, & NATURAL RESOURCES

Agribusiness Systems

Power, Structural, & Technical Systems – Agri Mechanics

Animal Systems – Agricultural Science/Animal

Plant Systems – Agricultural Science/Plant

Plant Systems – Horticulture

Natural Resources/Environmental Service Systems

Business/Marketing Technology

Cluster: BUSINESS, MANAGEMENT & ADMINISTRATION

Administration & Information Support/Office Administration

Management – Business Administration/Management

Business Financial Management & Accounting – Finance

Cluster: FINANCE

Banking & Related Services – Banking

Business & Financial Management – Finance

Cluster: HOSPITALITY AND TOURISM

Travel & Tourism – Hospitality

Travel & Tourism – Lodging

Cluster: INFORMATION TECHNOLOGY

Interactive Media – Information Management/Desktop Publishing

Interactive Media – Information Management/Multimedia

Programming/Software Engineering – Information Management/Programming

Programming/Software Engineering – Oracle

Cluster: MARKETING, SALES, & SERVICE

Marketing Information Management & Research – Marketing Tech

Arts & A-V Technology

Cluster: ARTS, A-V TECHNOLOGY, & COMMUNICATIONS

Visual Arts – Advertising Design

Visual Arts – Career Communications

Visual Arts – Commercial Photography

Printing Technology – Career Communications

Printing Technology – Graphic Communications

Journalism & Broadcasting – Career Communications

Journalism & Broadcasting – Radio/TV Broadcasting

Audio-Video Technology & Film – Career Communications

Performing Arts – Career Communications

Family & Consumer Sciences Education

Cluster: EDUCATION AND TRAINING

Teaching & Training – Education & Training

Cluster: HOSPITALITY AND TOURISM

Restaurant & Food and Beverage Services – Culinary Arts

Restaurant & Food and Beverage Services – Food Production

Lodging – Lodging Management

Cluster: HUMAN SERVICES

Early Childhood Development & Services – Child Care

Personal Care Services – Cosmetology

Family & Community Services – Family & Consumer Sciences Education

Skilled and Technical Sciences

Cluster: ARCHITECTURE & CONSTRUCTION

Construction – Construction Technology

Construction – HVACR

Design/Pre-Construction – Drafting & Design Architectural/CAD

Design/Pre-Construction – Geospatial Technology

Cluster: GOVERNMENT & PUBLIC ADMINISTRATION

National Security – JROTC

Cluster: HEALTH SCIENCES

Therapeutic Services/Health Science Technology Education

Cluster: INFORMATION TECHNOLOGY

Network Systems – Computer Engineering

Cluster: LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

Law Enforcement Services – Criminal Justice

Cluster: MANUFACTURING

Maintenance, Installation, & Repair – Industrial Equipment Maintenance

Maintenance, Installation, & Repair – Major Appliance Technology

Production – Advanced Manufacturing

Production – Furniture Manufacturing

Production – Machine Tool

Production – Welding

Cluster: TRANSPORTATION, DISTRIBUTION, & LOGISTICS

Facility & Mobile Equipment Maintenance - Auto Collision

Facility & Mobile Equipment Maintenance - Auto Service Tech

Facility & Mobile Equipment Maintenance - Aviation

Facility & Mobile Equipment Maintenance - Diesel Mechanics

Facility & Mobile Equipment Maintenance - Power Equipment Technology



How Can 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, the state government, postsecondary 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 in Arkansas 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 these costs. Schools with higher costs often have more financial aid; 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 or her 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 toward 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 of people 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 the 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/SAT 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.fafsa.ed.gov

www.asla.info

www.fundmyfuture.info

www.careeronestop.org

www.going2college.org

www.careerwatch.org

www.knowhow2go.org

www.college.gov

www.mappingyourfuture.org

www.discover.arkansas.gov

www.slgfa.org

Scholarships, Grants, and Federal Aid

Arkansas Scholarships and Grants

This information is current as of June 2010 and is provided for informational purposes only. It is not intended to be a complete description of the programs and 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 fnaid@adhe.edu if you should need further information.

Source: Arkansas Department of Higher Education

Academic Challenge Scholarship – The Academic Challenge Program provides educational assistance to Arkansas residents in pursuit of a higher education. Additional funding made possible by the Arkansas Scholarship Lottery, has allowed the expansion of the Arkansas Academic Challenge Scholarship to provide higher education opportunities to previously underserved Arkansans (both traditional & nontraditional students). The goal of the scholarship is to provide significant financial aid to those who qualify. Eligibility requirements for the Academic Challenge Scholarship are based on three student categories: Traditional (Incoming Freshman), Current Achievers, and Nontraditional Students.

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. Those 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 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 (STEP) Program – offers federal loan repayment grants 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 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, and awards are made by the institution the student attends. Students may be enrolled part time.

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 Universal 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.

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 financial aid after January 1, 2011, 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.

Arkansas Colleges

2009-2010
Enrollment/Tuition
Annualized

College/University

Admissions

Four-year Public

Arkansas State University
www.astate.edu
(800) 382-3030

12,156
\$6,370

P.O. Box 1630
Jonesboro, AR 72467
(870) 972-3024
admissions@astate.edu

Arkansas Tech University
www.atu.edu
(800) 582-6953

8,814
\$5,610

1605 Coliseum Drive, Suite 141
Russellville, AR 72801
(479) 968-0343
tech.enroll@atu.edu

Henderson State University
www.hsu.edu
(800) 228-7333

3,583
\$6,204

HSU Box 7560
Arkadelphia, AR 71999
(870) 230-5028
admissions@hsu.edu

Southern Arkansas University
www.saumag.edu
(800) 332-7286

3,226
\$6,066

P.O. Box 9382
Magnolia, AR 71753
(870) 235-4040
Muleriders@saumag.edu

University of Arkansas at Fayetteville
www.uark.edu
(800) 377-8632

19,849
\$6,459

232 Silas Hunt Hall
Fayetteville, AR 72701
(479) 575-5346
uofa@uark.edu

University of Arkansas at Fort Smith
www.uafortsmith.edu
(888) 512-5466

7,322
\$4,600

P.O. Box 3649
5210 Grand Ave.
Fort Smith, AR 72913
(479) 788-7120

University of Arkansas at Little Rock
www.ualr.edu
(800) 482-8892

13,132
\$6,331

Administration South 208
2801 S. University
Little Rock, AR 72204
(501) 569-3127
admissions@ualr.edu

University of Arkansas for Medical Sciences
www.uams.edu

2,774
Varies

4301 W. Markham
Slot 541
Little Rock, AR 72205
(501) 686-8998

University of Arkansas at Monticello
www.uamont.edu

3,479
\$4,750

P.O. Box 3600
Monticello, AR 71656
(870) 460-1026
(800) 844-1826

University of Arkansas at Pine Bluff
www.uapb.edu
(800) 264-6585

3,792
\$4,796

Mail Slot 4983
Pine Bluff, AR 71601
(870) 575-8492

& Universities

Tuition for public institutions is based on ADHE estimates of 15 credit hours plus mandatory fees per semester for the 2009-2010 school year. 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.

Financial Aid

P.O. Box 1620
Jonesboro, AR 72467
(870) 972-2310
finaid@astate.edu

1605 Coliseum Drive, Suite 117
Russellville, AR 72801
(479) 968-0399
fa.help@atu.edu

HSU Box 7812
Arkadelphia, AR 71999
(870) 230-5148

P.O. Box 9344
Magnolia, AR 71753
(870) 235-4023

114 Silas Hunt Hall
Fayetteville, AR 72701
(479) 575-3806

P.O. Box 3649
5210 Grand Ave.
Fort Smith, AR 72913
(479) 788-7090
finaid@uafortsmith.edu

Administration South 208
2801 S. University
Little Rock, AR 72204
(501) 569-3035
admissions@ualr.edu

4301 W. Markham
Slot 864
Little Rock, AR 72205
(501) 686-5451

P.O. Box 3470
Monticello, AR 71656
(870) 460-1050
(800) 226-2643

Mail Slot 4985
Pine Bluff, AR 71601
(870) 575-8302
finaid@uapb.edu

Housing

P.O. Box 2774
Jonesboro, AR 72467
(870) 972-2042
reslife@astate.edu

1605 Coliseum Drive, Suite 229
Russellville, AR 72801
(479) 968-0376
residence.life@atu.edu

HSU Box 7533
Arkadelphia, AR 71999
(870) 230-5083
ResLife@hsu.edu

P.O. Box 9431
Magnolia, AR 71753
(870) 235-4047
housing@saumag.edu

900 Holtz Hall
Fayetteville, AR 72701
(479) 575-3951
housing@uark.edu

Student Housing
801 N. 49th St.
Fort Smith, AR 72903
(479) 783-7577

Office of Student Housing
2801 S. University
Little Rock, AR 72204
(501) 661-1743
housing@ualr.edu

4601 W. Markham
Little Rock, AR 72205
(501) 686-5850

P.O. Box 3466
Monticello, AR 71656
(870) 460-1045
reslife@uamont.edu

Mail Slot Box 4933
Pine Bluff, AR 71611
(870) 575-8079

Arkansas Colleges

2009-2010
Enrollment/Tuition
Annualized

College/University

Admissions

University of Central Arkansas
www.uca.edu
(800) 243-8245

11,781
\$6,698

Bernard Hall, Suite 103
201 Donaghey Ave.
Conway, AR 72035
(501) 450-3128
admissions@uca.edu

Four-year Private

Arkansas Baptist College
www.arkansasbaptist.edu

733
\$7,018

1621 Dr. Martin Luther King Drive
Little Rock, AR 72202
(501) 244-5168

Central Baptist College
www.cbc.edu
(800) 205-6872

625
\$10,050

1501 College Ave.
Conway, AR 72034
(501) 329-6872

Crowley's Ridge College
www.crowleysridgecollege.info
(800) 264-1096

172
\$4,550

100 College Drive
Paragould, AR 72450
(870) 236-6901

Harding University
http://www.harding.edu

6,484
\$13,130

P.O. Box 12255
Searcy, AR 72149
(501) 279-4407
(800) 477-4407
admissions@harding.edu

Hendrix College
www.hendrix.edu
(800) 277-9017

1,463
\$32,040

1600 Washington Ave.
Conway, AR 72032
(501) 450-1362
adm@hendrix.edu

John Brown University
www.jbu.edu
(877) 528-4636

2,061
\$19,730

2000 W. University
Siloam Springs, AR 72761
(479) 524-9500
jbuinfo@jbu.edu

Lyon College
www.lyon.edu
(800) 423-2542

614
\$19,968

P.O. Box 2317
Batesville, AR 72503
(870) 307-7250
admissions@lyon.edu

Ouachita Baptist University
www.obu.edu
(800) 324-5628

1,447
\$19,820

P.O. Box 3757
410 Ouachita St.
Arkadelphia, AR 71998
(870) 245-5578
admissions@obu.edu

Philander Smith College
http://www.philandersmithadmissions.com
(800) 446-6772

668
\$9,000

One Trudiee Kibbe Reed Drive
Little Rock, AR 72202
(501) 370-5221

& Universities

Tuition for public institutions is based on ADHE estimates of 15 credit hours plus mandatory fees per semester for the 2009-2010 school year. 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.

Financial Aid

McCastlain Hall 001
201 Donaghey Ave.
Conway, AR 72035
(501) 450-3140
finaid@uca.edu

1621 Dr. Martin Luther King Drive
Little Rock, AR 72202
(501) 374-0804

1501 College Ave.
Conway, AR 72034
(501) 329-6872

100 College Drive
Paragould, AR 72450
(870) 236-6901

Student Financial Aid Services
P.O. Box 12282
Searcy, AR 72149
(501) 279-4257
(800) 477-3243
finaid@harding.edu

1600 Washington Ave.
Conway, AR 72032
(501) 450-1368
student_aid@hendrix.edu

2000 W. University
Siloam Springs, AR 72761
(479) 524-9500
finaid@jbu.edu

P.O. Box 2317
Batesville, AR 72503
(870) 307-7257

P.O. Box 3754
410 Ouachita St.
Arkadelphia, AR 71998
(870) 245-5000
finaid@obu.edu

One Trudiee Kibbe Reed Drive
Little Rock, AR 72202
(501) 370-5350

Housing

Bernard Hall, Room 201
201 Donaghey Ave.
Conway, AR 72035
(501) 450-3132
housing@uca.edu

1621 Dr. Martin Luther King Drive
Little Rock, AR 72202
(501) 244-5164

1501 College Ave.
Conway, AR 72034
(501) 329-6872

(501) 279-4358
(800) 879-4256
housing@harding.edu

Hendrix Residence Life
1600 Washington Ave.
Conway, AR 72032
(501) 450-1416
housing@hendrix.edu

2000 W. University
Siloam Springs, AR 72761
(479) 524-7229

Residence Life
2300 Highland Dr.
Batesville, AR 72501
(870) 307-7375

Residence Life
410 Ouachita St.
Arkadelphia, AR 71998
(870) 245-5000

Residential Life
One Trudiee Kibbe Reed Drive
Little Rock, AR 72202
(501) 975-6058

Arkansas Colleges

2009-2010
Enrollment/Tuition
Annualized

College/University

Admissions

University of the Ozarks

www.Ozarks.edu
(800) 264-8636

625
\$18,900

415 N. College
Clarksville, AR 72830
(479) 979-1227
admiss@ozarks.edu

Williams Baptist College

www.wbcoll.edu
(800) 722-4434

615
\$11,400

P.O. Box 3737
Walnut Ridge, AR 72476
(870) 759-4120
admissions@wbcoll.edu

Two-year Public

Arkansas Northeastern College

www.anc.edu

1,914
\$2,080

P.O. Box 1109
Blytheville, AR 72315
(870) 838-2955

Arkansas State University at Beebe

www.asub.edu
(800) 632-9985

Additional campuses include: Heber Springs,
Searcy, and Little Rock Air Force Base

4,491
\$2,670

P.O. Box 1000
Beebe, AR 72012
(501) 882-8260
admissions@asub.edu

Arkansas State University at Mountain Home

www.asumh.edu

1,517
\$2,760

1600 S. College St.
Mountain Home, AR 72653
(870) 508-6104

Arkansas State University at Newport

www.asun.edu
(800) 976-1676

Additional ASUN Technical Centers include
Jonesboro and Marked Tree

1,982
\$2,400

7648 Victory Blvd.
Newport, AR 72112
(870) 512-7800

Black River Technical College

www.blackrivertech.edu

2,234
\$2,190

P.O. Box 468
Pocahontas, AR 72455
(870) 248-4000

Cossatot Community College of the University of Arkansas

www.cccua.edu
(800) 844-4471

1,427
\$2,020

P.O. Box 960
DeQueen, AR 71832
(870) 584-4471

East Arkansas Community College

www.eacc.edu

1,532
\$2,280

1700 Newcastle Road
Forrest City, AR 72335
(870) 633-4480

Mid-South Community College

www.midsouthcc.edu
(866) 733-6722

2,192
\$2,570

2000 W. Broadway
West Memphis, AR 72301
(870) 733-6728
admissions@midsouthcc.edu

& Universities

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Financial Aid

415 N. College
Clarksville, AR 72830
(479) 979-1221

P.O. Box 3734
Walnut Ridge, AR 72476
(870) 759-4112
financialaid@wbcoll.edu

P.O. Box 1109
Blytheville, AR 72315
(870) 762-3103

P.O. Box 1000
Beebe, AR 72012
(501) 882-8845
finaid@asub.edu

1600 S. College St.
Mountain Home, AR 72653
(870) 508-6195

7648 Victory Blvd.
Newport, AR 72112
(870) 512-7713

P.O. Box 468
Pocahontas, AR 72455
(870) 248-4000

P.O. Box 960
DeQueen, AR 71832
(870) 584-4471

1700 Newcastle Road
Forrest City, AR 72335
(870) 633-4480

Reynolds Center, Room 150
West Memphis, AR 72301
(870) 733-6729
finaid@midsouthcc.edu

Housing

Seay Student Center
415 N. College
Clarksville, AR 72830
(479) 979-1322

Office of Housing
P.O. Box 3712
Walnut Ridge, AR 72476
(870) 759-4204

Office of Student Life
P.O. Box 1000
Beebe, AR 72102
(501) 882-8351

Arkansas Colleges

College/University	2009-2010 Enrollment/Tuition Annualized	Admissions
National Park Community College www.npcc.edu (800) 760-1825	3,862 \$2,500	101 College Drive Hot Springs National Park, AR 71913 (501) 760-4232 admissions@npcc.edu
North Arkansas College www.northark.net	2,429 \$2,460	1515 Pioneer Drive Harrison, AR 72601 (870) 391-3222 admissions@northark.edu
Northwest Arkansas Community College www.nwacc.edu (800) 995-6922	8,006 \$3,603	One College Drive Bentonville, AR 72712 (479) 636-9222 askadmissions@nwacc.edu
Ouachita Technical College www.otcweb.edu (800) 337-0266	1,610 \$2,252	Office of Student Affairs One College Circle Malvern, AR 72104 (501) 337-5000 info@otcweb.edu
Ozarka College www.ozarka.edu (800) 821-4335	1,364 \$2,570	P.O. Box 10 Melbourne, AR 72556 (870) 368-2028 admissions@ozarka.edu
Phillips Community College of the University of Arkansas www.pccua.edu	2,282 \$2,300	P.O. Box 785 Helena, AR 72342 (870) 338-6474
Pulaski Technical College www.pulaskitech.edu	10,261 \$2,800	3000 W. Scenic Drive North Little Rock, AR 72118 (501) 812-2231
Rich Mountain Community College www.rmcc.edu	1,111 \$2,220	1100 College Drive Mena, AR 71953 (479) 394-7622 Ext. 1410
South Arkansas Community College www.southark.edu (800) 995-2289	1,753 \$2,470	300 South West Ave El Dorado, AR 71730 (870) 864-7195
Southeast Arkansas College www.seark.edu (888) 732-7582	1,985 \$2,320	1900 Hazel St. Pine Bluff, AR 71603 (870) 850-8605
Southern Arkansas University - Tech www.sautech.edu	2,007 \$3,180	P.O. Box 3499 Camden, AR 71711 (870) 574-4500

& Universities

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Financial Aid

101 College Drive
Hot Springs National Park, AR 71913
(501) 760-4237

1515 Pioneer Drive
Harrison, AR 72601
(870) 391-3240

One College Drive
Bentonville, AR 72712
(479) 619-4329
finaid@nwacc.edu

Office of Student Affairs
One College Circle
Malvern, AR 72104
(501) 337-5000
financialaid@otcweb.edu

218 College Drive
Melbourne, AR 72556
(870) 368-2009
finaid@ozarka.edu

P.O. Box 785
Helena, AR 72342
(870) 338-6474 Ext. 1160

3000 W. Scenic Drive
North Little Rock, AR 72118
(501) 812-2289

1100 College Drive
Mena, AR 71953
(479) 243-0739 Ext. 1420

300 South West Ave.
El Dorado, AR 71730
(870) 864-7150

1900 Hazel St.
Pine Bluff, AR 71603
(870) 543-5909

P.O. Box 3499
Camden, AR 71711
(870) 574-4511

Housing

Business Office
P.O. Box 3499
Camden, AR 71711
(870) 574-4519

Arkansas Colleges

College/University	2009-2010 Enrollment/Tuition Annualized	Admissions
University of Arkansas Community College at Batesville www.uaccb.edu (800) 508-7878	1,729 \$2,570	P.O. Box 3350 Batesville, AR 72503 (870) 612-2139
University of Arkansas Community College at Hope www.uacch.edu	1,473 \$2,016	P.O. Box 140 Hope, AR 71801 (870) 722-8221
University of Arkansas Community College at Morrilton www.uaccm.edu (800) 264-1094	2,421 \$2,850	1537 University Blvd. Morrilton, AR 72110 (501) 977-2053 adm@uaccm.edu
<u>Two-year Private</u>		
Remington College www.remingtoncollege.edu (800) 560-6192	340 Varies	19 Remington Drive Little Rock, AR 72204 (501) 312-0007
Shorter College www.shortercollege.4t.com	N/A Varies	604 Locust St. North Little Rock, AR 72114 (501) 374-6305
<u>Technical Schools</u>		
Arkansas Tech University - Ozark www.atu.edu/ozark/ (866) 225-2884	N/A Varies	1700 Helburg Lane Ozark, AR 72949 (479) 667-2117
Crowley's Ridge Technical Institute www.crti.tec.ar.us (800) 842-2317	250 \$1,080	P.O. Box 925 Forrest City, AR 72336 (870) 633-5411
Northwest Technical Institute http://www.nwti.edu	474 Varies	709 So. Old Missouri Rd. Springdale, AR 72765 (479) 751-8824 info@nwti.edu
University of Arkansas at Monticello College of Technology Crossett www.uamont.edu (870) 364-6414	408 \$2,110	1326 Highway 52 W. Crossett, AR 71635 (800) 844-1826
University of Arkansas at Monticello College of Technology McGehee www.uamont.edu/mcgehee (800) 747-5360	508 \$2,110	P.O. Box 747 McGehee, AR 71654 (870) 222-5360

& Universities

Financial Aid

P.O. Box 3350
Batesville, AR 72503
(870) 612-2036

P.O. Box 140
Hope, AR 71801
(870) 722-8264

1537 University Blvd.
Morriton, AR 72110
(501) 977-2055

19 Remington Drive
Little Rock, AR 72204
(501) 312-0007

604 Locust St.
North Little Rock, AR 72114
(501) 374-6305

1700 Helburg Lane
Ozark, AR 72949
(479) 667-2117

P.O. Box 925
Forrest City, AR 72336
(870) 633-5411

709 So. Old Missouri Rd.
Springdale, AR 72765
(479) 751-8824

1326 Highway 52 W.
Crossett, AR 71635
(870) 364-6414

P.O. Box 747
McGehee, AR 71654
(870) 222-5360

Housing

Tuition for public institutions is based on ADHE estimates of 15 credit hours plus mandatory fees per semester for the 2009-2010 school year. 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.

So, you wanna be a...

2010-2011 Occupations and Careers

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, 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 "Occupations."

Here's how it works:

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.

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

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

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

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

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

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

Postsecondary vocational training – Programs last a few weeks to more than a year; leads to a certificate

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

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

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

Short-term on-the-job training (OJT) – 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 Unit. 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

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 number of openings expected each year in Arkansas for the occupation. The third 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 Arkansas Labor Market Information Unit bases both the growth rate and annual openings data on occupational projections.

AA – Above Average

A – Average

BA – Below Average

D – Decline

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Bachelor's or higher degree, plus work experience	\$65.83 \$136,930	3,289 88 D
11-1021 General and Operations Managers - Plan, direct, or coordinate the operations of companies or public and private sector organizations. Includes owners and managers who head small business establishments whose duties are primarily managerial.	Bachelor's or higher degree, plus work experience	\$42.98 \$89,410	13,501 370 D
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.	Bachelor's or higher degree, plus work experience	\$38.90 \$80,920	258 6 D
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.	Bachelor's or higher degree, plus work experience	\$47.34 \$98,470	710 15 D
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.	Bachelor's or higher degree, plus work experience	\$45.75 \$95,170	2,332 53 BA
11-2031 Public Relations Managers - Plan and direct public relations programs designed to create and maintain a favorable public image for employer or client; or if engaged in fundraising, plan and direct activities to solicit and maintain funds for special projects and nonprofit organizations.	Bachelor's or higher degree, plus work experience	\$36.11 \$75,100	236 10 A
11-3011 Administrative Services Managers - Plan, direct, or coordinate supportive services of an organization, such as recordkeeping, mail distribution, telephone operator/receptionist, and other office support services. May oversee facilities planning and maintenance and custodial operations.	Bachelor's or higher degree, plus work experience	\$30.90 \$64,270	3,049 59 BA
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.	Bachelor's or higher degree, plus work experience	\$47.75 \$99,320	1,457 34 BA
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.	Bachelor's or higher degree, plus work experience	\$38.25 \$79,550	3,727 59 D
11-3042 Training and Development Managers - Plan, direct, or coordinate the training and development activities and staff of an organization.	Bachelor's or higher degree, plus work experience	\$37.26 \$77,490	221 7 A
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.	Work experience in a related occupation	\$37.18 \$77,330	1,539 53 D
11-3071 Transportation, Storage, and Distribution Managers - Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with governmental policies and regulations.	Work experience in a related occupation	\$35.45 \$73,730	882 23 D
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.	Long-term on-the-job training	N/A N/A	76,658 471 D
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.	Bachelor's degree	\$34.54 \$71,830	3,242 18 BA
11-9032 Education Administrators, Elementary and Secondary School - Plan, direct, or coordinate the academic, clerical, or auxiliary activities of public or private elementary or secondary level schools.	Bachelor's or higher degree, plus work experience	N/A \$71,910	2,275 87 BA
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.	Bachelor's or higher degree, plus work experience	\$40.22 \$83,660	693 26 BA
11-9041 Engineering Managers - Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.	Bachelor's or higher degree, plus work experience	\$46.27 \$96,250	667 13 D
11-9051 Food Service Managers - Plan, direct, or coordinate activities of an organization or department that serves food and beverages.	Work experience in a related occupation	\$22.31 \$46,400	3,395 83 BA

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
11-9061 Funeral Directors - Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary for embalming, interviewing family or other authorized person to arrange details, selecting pallbearers, procuring official for religious rites, and providing transportation for mourners.	Associate degree	\$19.79 \$41,160	348 12 A
11-9081 Lodging Managers - Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.	Work experience in a related occupation	\$16.94 \$35,240	650 14 BA
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.	Long-term on-the-job training	\$26.92 \$56,000	2,471 65 BA
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.	Long-term on-the-job training	\$23.18 \$48,210	1,649 40 D
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.	Long-term on-the-job training	\$23.40 \$48,670	1,914 61 BA
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.	Work experience in a related occupation	\$18.68 \$38,860	146 4 BA
13-1071 Employment, Recruitment, and Placement Specialists - Recruit and place workers.	Bachelor's degree	\$18.71 \$38,910	1,682 73 A
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.	Bachelor's degree	\$21.72 \$45,190	809 34 A
13-1073 Training and Development Specialists - Conduct training and development programs for employees.	Bachelor's degree	\$20.09 \$41,780	2,088 92 A
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.	Bachelor's or higher degree, plus work experience	\$28.78 \$59,860	3,087 95 A
13-1121 Meeting and Convention Planners - Coordinate activities of staff and convention personnel to make arrangements for group meetings and conventions.	Bachelor's degree	\$17.19 \$35,760	186 5 BA
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.	Bachelor's degree	\$25.24 \$52,490	6,521 188 A
13-2031 Budget Analysts - Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports for the purpose of maintaining expenditure controls.	Bachelor's degree	\$27.49 \$57,180	438 10 BA
13-2053 Insurance Underwriters - Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.	Bachelor's degree	\$22.36 \$46,510	334 10 BA
13-2061 Financial Examiners - Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions. May examine, verify correctness of, or establish authenticity of records.	Bachelor's degree	\$28.88 \$60,060	264 7 A
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.	Moderate-term on-the-job training	\$29.13 \$60,580	2,503 22 D
13-2081 Tax Examiners, Collectors, and Revenue Agents - Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.	Bachelor's degree	\$20.48 \$42,600	1,474 70 A
13-2082 Tax Preparers - Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited or certified public accountant.	Moderate-term on-the-job training	\$12.25 \$25,470	1,333 19 D
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.	Bachelor's degree	\$30.58 \$63,610	5,018 106 BA
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.	Bachelor's degree	\$30.84 \$64,150	1,737 63 AA
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.	Bachelor's degree	\$34.32 \$71,400	923 38 AA
15-1041 Computer Support Specialists - Provide technical assistance to computer system users. Answer questions or resolve computer problems for clients in person, via telephone or from remote location.	Associate degree	\$18.02 \$37,480	3,981 145 BA

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Bachelor's degree	\$29.66 \$61,700	2,996 120 A
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.	Bachelor's degree	\$29.31 \$60,960	1,059 47 AA
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.	Bachelor's degree	\$28.46 \$59,200	2,439 65 A
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.	Bachelor's degree	\$32.84 \$68,300	2,568 136 AA
15-2041 Statisticians - Engage in the development of mathematical theory or apply statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information.	Master's degree	\$19.75 \$41,090	1,041 36 BA
17-1011 Architects, Except Landscape and Naval - Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.	Bachelor's degree	\$34.81 \$72,410	620 16 A
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.	Bachelor's degree	\$23.81 \$49,520	112 4 A
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.	Bachelor's degree	\$22.79 \$47,390	404 12 BA
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.	Bachelor's degree	\$33.05 \$68,740	90 2 D
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.	Bachelor's degree	\$43.75 \$91,000	169 7 BA
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.	Bachelor's degree	\$33.32 \$69,300	1,482 47 A
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.	Bachelor's degree	\$42.97 \$89,380	148 9 AA
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.	Bachelor's degree	\$37.97 \$78,970	691 30 A
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.	Bachelor's degree	\$33.87 \$70,450	504 11 D
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.	Bachelor's degree	\$33.70 \$70,100	220 11 AA
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.	Bachelor's degree	\$27.93 \$58,090	132 3 D
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.	Bachelor's degree	\$31.91 \$66,370	1,158 27 D
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.	Bachelor's degree	\$34.33 \$71,400	102 3 D
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.	Bachelor's degree	\$32.07 \$66,710	1,053 26 D
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.	Bachelor's degree	\$86.61 \$180,150	176 23 AA
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.	Postsecondary vocational training	\$19.94 \$41,470	581 14 BA
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.	Postsecondary vocational training	\$20.87 \$43,400	235 5 D
17-3013 Mechanical Drafters - Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.	Postsecondary vocational training	\$20.24 \$42,100	448 9 D

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
17-3021 Aerospace Engineering and Operations Technicians - Operate, install, calibrate, and maintain integrated computer/communications systems consoles, simulators, and other data acquisition, test, and measurement instruments and equipment to launch, track, position, and evaluate air and space vehicles. May record and interpret test data.	Associate degree	\$21.92 \$45,590	27 1 D
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.	Associate degree	\$21.03 \$43,730	389 12 A
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.	Associate degree	\$20.27 \$42,160	952 18 D
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.	Associate degree	\$18.81 \$39,120	101 3 BA
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.	Associate degree	\$21.30 \$44,310	107 2 D
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.	Moderate-term on-the-job training	\$15.63 \$32,510	575 18 A
19-1011 Animal Scientists - Conduct research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.	Doctoral degree	\$30.65 \$63,750	31 2 A
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.	Bachelor's degree	\$23.64 \$49,180	272 13 A
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.	Bachelor's degree	\$29.15 \$60,640	165 7 A
19-1022 Microbiologists - Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi.	Doctoral degree	\$30.99 \$64,460	202 9 BA
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.	Bachelor's degree	\$24.76 \$51,500	270 13 A
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.	Bachelor's degree	\$32.43 \$67,450	166 1 D
19-1032 Foresters - Manage forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement. Develop forest management plans for public and privately-owned forested lands.	Bachelor's degree	\$26.72 \$55,580	301 2 D
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.	Master's degree	\$26.50 \$55,120	46 2 A
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.	Bachelor's degree	\$30.81 \$64,080	450 18 BA
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.	Master's degree	\$24.33 \$50,600	474 24 A
19-3011 Economists - Conduct research, prepare reports, or formulate plans to aid in solution of economic problems arising from production and distribution of goods and services. May collect and process economic and statistical data using econometric and sampling techniques.	Master's degree	\$19.44 \$40,430	711 32 A
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.	Bachelor's degree	\$30.02 \$62,430	843 38 A
19-3031 Clinical, Counseling, and School Psychologists - Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems using individual, child, family, and group therapies. May design and implement behavior modification programs.	Doctoral degree	\$33.64 \$69,980	1,150 41 BA
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.	Master's degree	\$21.59 \$44,900	189 5 BA
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.	Associate degree	\$15.27 \$31,760	282 12 BA
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.	Bachelor's degree	\$16.91 \$35,180	367 18 BA
19-4061 Social Science Research Assistants - Assist social scientists in laboratory, survey, and other social research. May perform publication activities, laboratory analysis, quality control, or data management.	Associate degree	\$15.67 \$32,590	115 7 A

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Associate degree	\$17.12 \$35,620	134 10 AA
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.	Bachelor's degree	\$18.89 \$39,280	152 10 A
19-4093 Forest and Conservation Technicians - Compile data pertaining to size, content, condition, and other characteristics of forest tracts, under direction of foresters; train and lead forest workers in forest propagation, fire prevention and suppression.	Associate degree	\$19.42 \$40,390	305 14 D
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.	Master's degree	\$22.75 \$47,330	514 23 A
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.	Bachelor's degree	\$17.13 \$35,620	1,428 56 A
21-1023 Mental Health and Substance Abuse Social Workers - Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.	Master's degree	\$19.68 \$40,940	851 36 A
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.	Master's degree	\$20.05 \$41,700	1,548 34 BA
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.	First professional degree	\$48.37 \$100,620	3,275 55 D
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.	Associate degree	\$17.85 \$37,130	1,500 20 BA
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.	Postsecondary vocational training	\$15.69 \$32,640	110 5 A
23-2092 Law Clerks - Assist lawyers or judges by researching or preparing legal documents. May meet with clients or assist lawyers and judges in court.	Bachelor's degree	\$12.46 \$25,920	343 6 BA
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.	Moderate-term on-the-job training	\$14.41 \$29,980	884 11 D
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.	Postsecondary vocational training	\$12.30 \$25,570	4,094 158 A
25-2012 Kindergarten Teachers, Except Special Education - Teach elementary 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.	Bachelor's degree	N/A \$42,760	2,516 88 A
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.	Bachelor's degree	N/A \$42,570	11,917 456 A
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.	Bachelor's degree	N/A \$43,520	6,207 235 A
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.	Bachelor's degree	N/A \$45,410	10,597 418 A
25-2032 Vocational Education Teachers, Secondary School - Teach or instruct vocational or occupational subjects at the secondary school level.	Bachelor's or higher degree, plus work experience	N/A \$47,570	1,399 56 A
25-2041 Special Education Teachers, Preschool, Kindergarten, and Elementary School - Teach elementary and preschool 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.	Bachelor's degree	N/A \$43,080	1,502 64 A
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.	Bachelor's degree	N/A \$46,900	1,182 45 A
25-4011 Archivists - Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials.	Master's degree	\$26.56 \$55,250	27 2 A
25-4012 Curators - Administer affairs of museum and conduct research programs. Direct instructional, research, and public service activities of institution.	Master's degree	\$22.26 \$46,300	48 4 AA
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.	Bachelor's degree	\$14.96 \$31,120	64 4 A

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Master's degree	\$24.28 \$50,510	1,573 49 BA
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.	Short-term on-the-job training	N/A \$18,660	9,900 295 A
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.	Bachelor's or higher degree, plus work experience	\$23.75 \$49,400	373 8 D
27-1012 Craft Artists - Create or reproduce hand-made objects for sale and exhibition using a variety of techniques, such as welding, weaving, pottery, and needlecraft.	Long-term on-the-job training	\$10.37 \$21,570	27 1 D
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.	Bachelor's degree	\$22.89 \$47,610	66 2 D
27-1023 Floral Designers - Design, cut, and arrange live, dried, or artificial flowers and foliage.	Short-term on-the-job training	\$10.48 \$21,800	585 18 D
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.	Bachelor's degree	\$17.32 \$36,030	1,473 48 BA
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.	Associate degree	\$19.28 \$40,110	181 8 BA
27-2011 Actors - Play parts in stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Interpret serious or comic role by speech, gesture, and body movement to entertain or inform audience. May dance and sing.	Long-term on-the-job training	\$10.71 N/A	146 4 D
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.	Bachelor's or higher degree, plus work experience	\$19.78 \$41,150	261 8 D
27-2041 Music Directors and Composers - Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Includes arrangers, composers, choral directors, and orchestrators.	Bachelor's or higher degree, plus work experience	\$20.80 \$43,250	311 7 BA
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.	Long-term on-the-job training	\$13.18 \$27,420	412 11 D
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.	Bachelor's degree	\$14.75 \$30,690	474 13 D
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.	Bachelor's degree	\$21.91 \$45,570	1,692 70 A
27-3041 Editors - Perform variety of editorial duties, such as laying out, indexing, and revising content of written materials, in preparation for final publication.	Bachelor's degree	\$20.27 \$42,160	713 20 D
27-3042 Technical Writers - Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.	Bachelor's degree	\$22.79 \$47,410	150 5 BA
27-3043 Writers and Authors - Originate and prepare written material, such as scripts, stories, advertisements, and other material.	Bachelor's degree	\$22.50 \$46,800	476 12 BA
27-3091 Interpreters and Translators - Translate or interpret written, oral, or sign language text into another language for others.	Long-term on-the-job training	\$28.17 \$58,580	195 9 A
27-4021 Photographers - Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints.	Long-term on-the-job training	\$13.45 \$27,970	1,018 26 BA
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.	First professional degree	\$42.42 \$88,240	450 9 BA
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.	First professional degree	\$89.76 \$186,710	755 25 BA
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.	Bachelor's degree	\$23.57 \$49,020	467 16 BA
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.	First professional degree	\$36.06 \$75,000	397 16 BA

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
29-1051 Pharmacists - Compound and dispense medications following prescriptions issued by physicians, dentists, or other authorized medical practitioners.	First professional degree	\$46.21 \$96,110	2,805 83 BA
29-1061 Anesthesiologists - Administer anesthetics during surgery or other medical procedures.	First professional degree	\$106.46 \$221,430	278 8 A
29-1062 Family and General Practitioners - Diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population.	First professional degree	\$99.05 \$206,030	1,053 32 A
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.	First professional degree	\$102.84 \$213,910	162 5 BA
29-1064 Obstetricians and Gynecologists - Diagnose, treat, and help prevent diseases of women, especially those affecting the reproductive system and the process of childbirth.	First professional degree	\$111.81 \$232,560	190 6 A
29-1065 Pediatricians, General - Diagnose, treat, and help prevent children's diseases and injuries.	First professional degree	\$94.41 \$196,360	109 4 A
29-1066 Psychiatrists - Diagnose, treat, and help prevent disorders of the mind.	First professional degree	\$67.75 \$140,920	109 3 BA
29-1067 Surgeons - Treat diseases, injuries, and deformities by invasive methods, such as manual manipulation or by using instruments and appliances.	First professional degree	\$107.68 \$223,970	531 16 A
29-1071 Physician Assistants - Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment, and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants.	Master's degree	\$30.83 \$64,120	140 6 AA
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.	Associate degree	\$27.42 \$57,040	23,619 769 A
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.	Master's degree	\$36.66 \$76,260	893 33 A
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.	Master's degree	\$35.73 \$74,310	1,760 54 A
29-1124 Radiation Therapists - Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards.	Associate degree	\$33.62 \$69,930	94 5 AA
29-1125 Recreational Therapists - Plan, direct, or coordinate medically-approved recreation programs for patients in hospitals, nursing homes, or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts. May assess a patient condition and recommend appropriate recreational activity.	Bachelor's degree	\$17.90 \$37,230	149 8 A
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.	Master's degree	\$30.06 \$62,530	1,611 52 A
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.	First professional degree	\$35.94 \$74,750	362 16 AA
29-2011 Medical and Clinical Laboratory Technologists - Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.	Bachelor's degree	\$23.59 \$49,060	1,383 29 BA
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.	Associate degree	\$15.95 \$33,170	1,203 31 BA
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.	Associate degree	\$30.61 \$63,670	1,323 54 A
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.	Associate degree	\$21.34 \$44,380	1,948 43 A
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.	Postsecondary vocational training	\$13.76 \$28,630	1,833 101 AA
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.	Postsecondary vocational training	\$11.59 \$24,110	266 10 A
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.	Moderate-term on-the-job training	\$11.56 \$24,050	3,522 152 A

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
29-2054 Respiratory Therapy Technicians - Provide specific, well defined respiratory care procedures under the direction of respiratory therapists and physicians.	Postsecondary vocational training	\$18.74 \$38,980	292 6 BA
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.	Postsecondary vocational training	\$16.47 \$34,260	1,028 48 AA
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.	Postsecondary vocational training	\$16.23 \$33,750	12,437 570 A
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.	Associate degree	\$14.66 \$30,500	1,532 48 A
29-2081 Opticians, Dispensing - Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription.	Long-term on-the-job training	\$13.79 \$28,680	635 20 A
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.	Bachelor's degree	\$29.80 \$61,980	379 14 BA
29-9012 Occupational Health and Safety Technicians - Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.	Associate degree	\$17.44 \$36,280	55 2 BA
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.	Short-term on-the-job training	\$8.78 \$18,270	4,379 197 AA
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.	Postsecondary vocational training	\$9.72 \$20,220	18,537 475 A
31-2011 Occupational Therapist Assistants - Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with State laws, assist in development of treatment plans, carry out routine functions, direct activity programs, and document the progress of treatments. Generally requires formal training.	Associate degree	\$23.97 \$49,850	125 5 A
31-2012 Occupational Therapist Aides - Under close supervision of an occupational therapist or occupational therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing patient and treatment room.	Short-term on-the-job training	\$10.56 \$21,970	66 3 A
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.	Short-term on-the-job training	\$9.73 \$20,240	481 19 AA
31-9091 Dental Assistants - Assist dentist, set up patient and equipment, and keep records.	Moderate-term on-the-job training	\$13.26 \$27,580	2,518 98 A
31-9093 Medical Equipment Preparers - Prepare, sterilize, install, or clean laboratory or healthcare equipment. May perform routine laboratory tasks and operate or inspect equipment.	Short-term on-the-job training	\$11.97 \$24,890	259 7 A
31-9094 Medical Transcriptionists - Use transcribing machines with headset and foot pedal to listen to recordings by physicians and other healthcare professionals dictating a variety of medical reports, such as emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries.	Postsecondary vocational training	\$14.03 \$29,180	1,031 18 BA
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.	Short-term on-the-job training	\$9.70 \$20,170	417 4 D
31-9096 Veterinary Assistants and Laboratory Animal Caretakers - Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment.	Short-term on-the-job training	\$9.93 \$20,660	841 33 AA
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.	Long-term on-the-job training	\$16.51 \$34,340	2,651 75 D
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.	Work experience in a related occupation	\$20.67 \$42,990	62 2 BA
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.	Moderate-term on-the-job training	\$14.83 \$30,850	5,178 162 A
33-3021 Detectives and Criminal Investigators - Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes.	Work experience in a related occupation	\$24.71 \$51,400	469 8 D
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.	Long-term on-the-job training	\$17.33 \$36,050	5,338 127 D

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
33-9011 Animal Control Workers - Handle animals for the purpose of investigations of mistreatment, or control of abandoned, dangerous, or unattended animals.	Moderate-term on-the-job training	\$12.82 \$26,670	213 7 D
33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers - Monitor recreational areas, such as pools, beaches, or ski slopes to provide assistance and protection to participants.	Short-term on-the-job training	\$8.02 \$16,680	408 47 BA
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.	Short-term on-the-job training	\$7.76 \$16,130	10,411 562 AA
35-2012 Cooks, Institution and Cafeteria - Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.	Moderate-term on-the-job training	\$9.07 \$18,860	6,906 239 BA
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.	Long-term on-the-job training	\$9.56 \$19,890	6,694 201 BA
35-2015 Cooks, Short Order - Prepare and cook to order a variety of foods that require only a short preparation time. May take orders from customers and serve patrons at counters or tables.	Short-term on-the-job training	\$8.87 \$18,440	1,862 53 D
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.	Short-term on-the-job training	\$8.44 \$17,560	7,079 326 BA
35-3021 Combined Food Preparation and Serving Workers, Including Fast Food - Perform duties which combine both food preparation and food service.	Short-term on-the-job training	\$7.64 \$15,890	20,131 930 AA
35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop - Serve food to diners at counter or from a steam table.	Short-term on-the-job training	\$7.98 \$16,590	2,130 294 A
35-3031 Waiters and Waitresses - Take orders and serve food and beverages to patrons at tables in dining establishment.	Short-term on-the-job training	\$8.32 \$17,300	17,530 1,042 BA
35-3041 Food Servers, Nonrestaurant - Serve food to patrons outside of a restaurant environment, such as in hotels, hospital rooms, or cars.	Short-term on-the-job training	\$7.78 \$16,190	3,442 121 A
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.	Short-term on-the-job training	\$9.63 \$20,040	17,660 314 D
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.	Short-term on-the-job training	\$8.21 \$17,080	9,439 156 D
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.	Short-term on-the-job training	\$10.66 \$22,180	6,941 138 BA
39-2011 Animal Trainers - Train animals for riding, harness, security, performance, or obedience, or assisting persons with disabilities. Accustom animals to human voice and contact; and condition animals to respond to commands. Train animals according to prescribed standards for show or competition. May train animals to carry pack loads or work as part of pack team.	Moderate-term on-the-job training	\$11.32 \$23,540	642 20 A
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.	Short-term on-the-job training	\$8.83 \$18,360	1,570 49 BA
39-3091 Amusement and Recreation Attendants - Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.	Short-term on-the-job training	\$8.26 \$17,180	547 41 BA
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.	Postsecondary vocational training	\$12.96 \$26,960	3,518 81 BA
39-5092 Manicurists and Pedicurists - Clean and shape customers' fingernails and toenails. May polish or decorate nails.	Postsecondary vocational training	\$12.51 \$26,030	139 4 A
39-5094 Skin Care Specialists - Provide skin care treatments to face and body to enhance an individual's appearance.	Postsecondary vocational training	\$15.05 \$31,310	167 6 A
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.	Short-term on-the-job training	\$8.05 \$16,750	9,895 401 BA
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.	Short-term on-the-job training	\$8.19 \$17,020	8,977 452 AA
39-9031 Fitness Trainers and Aerobics Instructors - Instruct or coach groups or individuals in exercise activities and the fundamentals of sports. Demonstrate techniques and methods of participation.	Postsecondary vocational training	\$13.44 \$27,950	1,250 39 A

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
39-9032 Recreation Workers - Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individual members.	Short-term on-the-job training	\$10.40 \$21,640	2,309 73 A
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.	Short-term on-the-job training	\$8.13 \$16,920	29,904 1,774 D
41-2031 Retail Salespersons - Sell merchandise, such as furniture, motor vehicles, appliances, or apparel in a retail establishment.	Short-term on-the-job training	\$10.54 \$21,920	35,205 1,087 BA
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.	Moderate-term on-the-job training	\$18.67 \$38,840	1,360 25 D
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.	Postsecondary vocational training	\$24.01 \$49,930	2,869 64 D
41-3031 Securities, Commodities, and Financial Services Sales Agents - Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling. May advise securities customers about such things as stocks, bonds, and market conditions.	Bachelor's degree	\$41.49 \$86,300	1,005 40 BA
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.	Postsecondary vocational training	\$13.46 \$28,000	181 2 D
41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products - Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.	Work experience in a related occupation	\$31.36 \$65,240	2,353 54 BA
41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products - Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.	Work experience in a related occupation	\$27.37 \$56,930	12,188 267 D
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.	Postsecondary vocational training	\$18.23 \$37,910	1,757 25 D
OFFICE AND ADMINISTRATIVE SUPPORT OCCUPATIONS			
43-2011 Switchboard Operators, Including Answering Service - Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.	Short-term on-the-job training	\$11.06 \$23,000	2,013 48 BA
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.	Short-term on-the-job training	\$13.71 \$28,520	3,139 95 A
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.	Moderate-term on-the-job training	\$13.97 \$29,060	20,042 256 BA
43-3051 Payroll and Timekeeping Clerks - Compile and post employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions. May prepare paychecks.	Moderate-term on-the-job training	\$15.32 \$31,870	1,780 40 D
43-3071 Tellers - Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.	Short-term on-the-job training	\$10.54 \$21,920	7,007 323 D
43-4021 Correspondence Clerks - Compose letters in reply to requests for merchandise, damage claims, credit and other information, delinquent accounts, incorrect billings, or unsatisfactory services. Duties may include gathering data to formulate reply and typing correspondence.	Short-term on-the-job training	\$13.91 \$28,930	92 3 D
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.	Short-term on-the-job training	\$12.75 \$26,510	1,119 32 BA
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.	Moderate-term on-the-job training	\$13.70 \$28,490	14,971 699 A
43-4061 Eligibility Interviewers, Government Programs - Determine eligibility of persons applying to receive assistance from government programs and agency resources, such as welfare, unemployment benefits, social security, and public housing.	Moderate-term on-the-job training	\$15.19 \$31,590	1,747 67 A
43-4071 File Clerks - File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested.	Short-term on-the-job training	\$9.84 \$20,460	2,099 60 D
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.	Short-term on-the-job training	\$8.31 \$17,280	2,407 116 BA
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.	Short-term on-the-job training	\$12.65 \$26,310	1,439 41 D

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Short-term on-the-job training	\$10.62 \$22,090	10,041 343 BA
43-4181 Reservation and Transportation Ticket Agents and Travel Clerks - Make and confirm reservations and sell tickets to passengers and for large hotel or motel chains. May check baggage and direct passengers to designated concourse, pier, or track; make reservations, deliver tickets, arrange for visas, contact individuals and groups to inform them of package tours, or provide tourists with travel information, such as points of interest, restaurants, rates, and emergency service.	Short-term on-the-job training	\$14.74 \$30,660	214 5 D
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.	Moderate-term on-the-job training	\$18.57 \$38,630	886 20 D
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.	Moderate-term on-the-job training	\$11.91 \$24,760	1,215 23 D
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.	Moderate-term on-the-job training	\$16.17 \$33,640	2,039 39 D
43-5041 Meter Readers, Utilities - Read meter and record consumption of electricity, gas, water, or steam.	Short-term on-the-job training	\$11.69 \$24,320	804 18 D
43-5051 Postal Service Clerks - Perform any combination of tasks in a post office, such as receive letters and parcels; sell postage and revenue stamps, postal cards, and stamped envelopes; fill out and sell money orders; place mail in pigeon holes of mail rack or in bags according to State, address, or other scheme; and examine mail for correct postage.	Short-term on-the-job training	\$24.52 \$51,000	800 16 D
43-5052 Postal Service Mail Carriers - Sort mail for delivery. Deliver mail on established route by vehicle or on foot.	Short-term on-the-job training	\$22.41 \$46,610	3,138 91 D
43-5061 Production, Planning, and Expediting Clerks - Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule.	Moderate-term on-the-job training	\$18.84 \$39,190	2,277 51 D
43-5071 Shipping, Receiving, and Traffic Clerks - Verify and keep records on incoming and outgoing shipments. Prepare items for shipment.	Short-term on-the-job training	\$12.95 \$26,940	5,262 130 D
43-5081 Stock Clerks and Order Fillers - Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays.	Short-term on-the-job training	\$10.03 \$20,870	15,556 374 D
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.	Work experience in a related occupation	\$16.67 \$34,670	8,670 185 BA
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.	Moderate-term on-the-job training	\$12.19 \$25,350	18,338 250 D
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.	Moderate-term on-the-job training	\$16.51 \$34,330	1,570 22 BA
43-9081 Proofreaders and Copy Markers - Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors.	Short-term on-the-job training	\$12.20 \$25,370	115 2 D
43-9111 Statistical Assistants - Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Includes actuarial clerks.	Moderate-term on-the-job training	\$13.17 \$27,390	1,754 55 A
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.	Work experience in a related occupation	\$18.78 \$39,060	478 9 D
45-2041 Graders and Sorters, Agricultural Products - Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition.	Work experience in a related occupation	\$10.67 \$22,200	1,376 27 D
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.	Short-term on-the-job training	\$10.49 \$21,810	4,202 128 BA
45-3011 Fishers and Related Fishing Workers - Use nets, fishing rods, traps, or other equipment to catch and gather fish or other aquatic animals from rivers, lakes, or oceans, for human consumption or other uses. May haul game onto ship.	Moderate-term on-the-job training	N/A N/A	26 1 BA
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.	Moderate-term on-the-job training	\$15.57 \$32,390	110 3 D
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.	Moderate-term on-the-job training	\$16.50 \$34,310	587 15 D

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Moderate-term on-the-job training	\$15.89 \$33,060	1,519 38 D
Construction Trades and Related Occupations			
47-2011 Boilermakers - Construct, assemble, maintain, and repair stationary steam boilers and boiler house auxiliaries. Align structures or plate sections to assemble boiler frame tanks or vats, following blueprints. Work involves use of hand and power tools, plumb bobs, levels, wedges, dogs, or tumbuckles.	Long-term on-the-job training	\$20.65 \$42,940	129 3 D
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.	Long-term on-the-job training	\$18.80 \$39,110	1,208 31 BA
47-2022 Stonemasons - Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.	Long-term on-the-job training	\$12.17 \$25,320	75 7 AA
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.	Long-term on-the-job training	\$16.28 \$33,860	6,364 66 D
47-2041 Carpet Installers - Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials.	Moderate-term on-the-job training	\$12.75 \$26,510	158 4 D
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.	Moderate-term on-the-job training	\$15.98 \$33,240	124 3 D
47-2044 Tile and Marble Setters - Apply hard tile, marble, and wood tile to walls, floors, ceilings, and roof decks.	Long-term on-the-job training	\$15.48 \$32,200	205 16 AA
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.	Moderate-term on-the-job training	\$14.69 \$30,550	1,569 39 D
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.	Moderate-term on-the-job training	\$13.79 \$28,670	403 5 BA
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.	Long-term on-the-job training	\$20.10 \$41,800	5,358 122 D
47-2132 Insulation Workers, Mechanical - Apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.	Moderate-term on-the-job training	\$18.59 \$38,670	102 3 D
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.	Moderate-term on-the-job training	\$15.29 \$31,800	2,157 33 D
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.	Short-term on-the-job training	\$14.31 \$29,770	533 10 D
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.	Long-term on-the-job training	\$18.28 \$38,030	3,189 58 D
47-2161 Plasterers and Stucco Masons - Apply interior or exterior plaster, cement, stucco, or similar materials. May also set ornamental plaster.	Long-term on-the-job training	\$15.84 \$32,950	74 1 BA
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.	Moderate-term on-the-job training	\$14.51 \$30,180	650 10 D
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.	Long-term on-the-job training	\$19.37 \$40,290	921 14 D
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.	Work experience in a related occupation	\$20.84 \$43,360	766 22 BA
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.	Moderate-term on-the-job training	\$12.86 \$26,750	1,543 37 BA
47-5011 Derrick Operators, Oil and Gas - Rig derrick equipment and operate pumps to circulate mud through drill hole.	Moderate-term on-the-job training	\$18.16 \$37,770	1,002 86 AA
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.	Moderate-term on-the-job training	\$22.28 \$46,350	827 71 AA
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.	Moderate-term on-the-job training	\$17.13 \$35,630	373 34 AA

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Postsecondary vocational training	\$18.71 \$38,930	398 6 D
49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment - Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas.	Postsecondary vocational training	\$22.05 \$45,870	337 5 D
49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay - Inspect, test, repair, or maintain electrical equipment in generating stations, substations, and in-service relays.	Postsecondary vocational training	\$25.87 \$53,800	177 11 AA
49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles - Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.	Postsecondary vocational training	\$12.42 \$25,830	166 3 D
49-2097 Electronic Home Entertainment Equipment Installers and Repairers - Repair, adjust, or install audio or television receivers, stereo systems, camcorders, video systems, or other electronic home entertainment equipment.	Postsecondary vocational training	\$13.39 \$27,860	250 4 D
49-2098 Security and Fire Alarm Systems Installers - Install, program, maintain, and repair security and fire alarm wiring and equipment. Ensure that work is in accordance with relevant codes.	Postsecondary vocational training	\$14.70 \$30,570	365 11 A
49-3011 Aircraft Mechanics and Service Technicians - Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems.	Postsecondary vocational training	\$21.40 \$44,510	733 19 BA
49-3023 Automotive Service Technicians and Mechanics - Diagnose, adjust, repair, or overhaul automotive vehicles.	Postsecondary vocational training	\$14.71 \$30,590	6,615 115 D
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.	Postsecondary vocational training	\$17.07 \$35,510	3,175 63 D
49-3041 Farm Equipment Mechanics - Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.	Long-term on-the-job training	\$14.82 \$30,820	744 22 A
49-3092 Recreational Vehicle Service Technicians - Diagnose, inspect, adjust, repair, or overhaul recreational vehicles including travel trailers. May specialize in maintaining gas, electrical, hydraulic, plumbing, or chassis/towing systems as well as repairing generators, appliances, and interior components.	Long-term on-the-job training	\$13.71 \$28,510	139 3 D
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.	Postsecondary vocational training	\$17.93 \$37,290	2,982 41 D
49-9031 Home Appliance Repairers - Repair, adjust, or install all types of electric or gas household appliances, such as refrigerators, washers, dryers, and ovens.	Long-term on-the-job training	\$14.48 \$30,110	426 6 D
49-9041 Industrial Machinery Mechanics - Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.	Long-term on-the-job training	\$19.90 \$41,400	5,150 74 BA
49-9043 Maintenance Workers, Machinery - Lubricate machinery, change parts, or perform other routine machinery maintenance.	Moderate-term on-the-job training	\$16.09 \$33,480	717 10 D
49-9044 Millwrights - Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.	Long-term on-the-job training	\$18.99 \$39,510	950 17 D
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.	Long-term on-the-job training	\$23.68 \$49,260	1,756 66 BA
49-9052 Telecommunications Line Installers and Repairers - String and repair telephone and television cable, including fiber optics and other equipment for transmitting messages or television programming.	Long-term on-the-job training	\$20.04 \$41,680	1,388 19 D
49-9062 Medical Equipment Repairers - Test, adjust, or repair biomedical or electromedical equipment.	Associate degree	\$18.95 \$39,430	284 13 A
49-9094 Locksmiths and Safe Repairers - Repair and open locks; make keys; change locks and safe combinations; and install and repair safes.	Moderate-term on-the-job training	\$13.82 \$28,750	198 5 A
49-9096 Riggers - Set up or repair rigging for construction projects, manufacturing plants, logging yards, ships and shipyards, or for the entertainment industry.	Short-term on-the-job training	\$18.13 \$37,720	25 1 BA
PRODUCTION OCCUPATIONS			
51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers - Assemble, fit, fasten, and install parts of airplanes, space vehicles, or missiles, such as tails, wings, fuselage, bulkheads, stabilizers, landing gear, rigging and control equipment, or heating and ventilating systems.	Moderate-term on-the-job training	\$22.62 \$47,060	87 2 D

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Short-term on-the-job training	\$13.18 \$27,420	535 9 D
51-2023 Electromechanical Equipment Assemblers - Assemble or modify electromechanical equipment or devices, such as servomechanisms, gyros, dynamometers, magnetic drums, tape drives, brakes, control linkage, actuators, and appliances.	Short-term on-the-job training	\$16.04 \$33,350	143 3 D
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.	Short-term on-the-job training	\$11.58 \$24,080	265 22 AA
51-2041 Structural Metal Fabricators and Fitters - Fabricate, lay out, position, align, and fit parts of structural metal products.	Moderate-term on-the-job training	\$13.32 \$27,700	1,238 26 D
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.	Moderate-term on-the-job training	\$12.20 \$25,380	324 7 D
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.	Moderate-term on-the-job training	\$12.29 \$25,560	15,349 339 D
51-3011 Bakers - Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods.	Long-term on-the-job training	\$9.73 \$20,240	815 22 BA
51-3021 Butchers and Meat Cutters - Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.	Long-term on-the-job training	\$12.58 \$26,160	1,127 36 D
51-3022 Meat, Poultry, and Fish Cutters and Trimmers - Use hand tools to perform routine cutting and trimming of meat, poultry, and fish.	Short-term on-the-job training	\$9.71 \$20,200	9,058 289 D
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.	Moderate-term on-the-job training	\$10.16 \$21,140	1,441 46 D
51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders - Operate or tend food or tobacco roasting, baking, or drying equipment, including hearth ovens, kiln driers, roasters, char kilns, and vacuum drying equipment.	Short-term on-the-job training	\$14.04 \$29,200	454 17 BA
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.	Short-term on-the-job training	\$12.55 \$26,110	914 29 BA
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.	Moderate-term on-the-job training	\$15.55 \$32,350	1,515 29 D
51-4012 Numerical Tool and Process Control Programmers - Develop programs to control machining or processing of parts by automatic machine tools, equipment, or systems.	Work experience in a related occupation	\$22.59 \$46,990	65 1 D
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.	Moderate-term on-the-job training	\$14.54 \$30,240	1,094 21 D
51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic - Set up, operate, or tend machines to roll steel or plastic forming bends, beads, knurls, rolls, or plate or to flatten, temper, or reduce gauge of material.	Moderate-term on-the-job training	\$18.30 \$38,070	535 10 D
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.	Moderate-term on-the-job training	\$13.16 \$27,380	3,025 64 D
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.	Moderate-term on-the-job training	\$14.87 \$30,940	647 6 D
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.	Moderate-term on-the-job training	\$14.98 \$31,160	655 10 D
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.	Moderate-term on-the-job training	\$14.30 \$29,740	608 12 D
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.	Moderate-term on-the-job training	\$16.55 \$34,430	231 5 D
51-4041 Machinists - Set up and operate a variety of machine tools to produce precision parts and instruments.	Long-term on-the-job training	\$17.07 \$35,500	3,052 38 D
51-4051 Metal-Refining Furnace Operators and Tenders - Operate or tend furnaces, such as gas, oil, coal, electric-arc or electric induction, open-hearth, or oxygen furnaces, to melt and refine metal before casting or to produce specified types of steel.	Moderate-term on-the-job training	\$21.23 \$44,150	178 5 BA

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
51-4052 Pourers and Casters, Metal - Operate hand-controlled mechanisms to pour and regulate the flow of molten metal into molds to produce castings or ingots.	Moderate-term on-the-job training	\$24.38 \$50,720	58 3 AA
51-4071 Foundry Mold and Coremakers - Make or form wax or sand cores or molds used in the production of metal castings in foundries.	Moderate-term on-the-job training	\$12.71 \$26,430	94 2 D
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.	Moderate-term on-the-job training	\$14.65 \$30,480	2,004 42 D
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.	Moderate-term on-the-job training	\$15.42 \$32,070	1,106 45 A
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.	Long-term on-the-job training	\$19.04 \$39,610	702 5 D
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.	Postsecondary vocational training	\$15.77 \$32,810	5,626 168 D
51-5023 Printing Machine Operators - Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.	Moderate-term on-the-job training	\$15.04 \$31,290	1,657 32 D
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.	Moderate-term on-the-job training	\$8.62 \$17,930	2,213 37 BA
51-6031 Sewing Machine Operators - Operate or tend sewing machines to join, reinforce, decorate, or perform related sewing operations in the manufacture of garment or nongarment products.	Moderate-term on-the-job training	\$8.81 \$18,330	1,601 10 D
51-6041 Shoe and Leather Workers and Repairers - Construct, decorate, or repair leather and leather-like products, such as luggage, shoes, and saddles.	Long-term on-the-job training	\$9.20 \$19,130	219 3 D
51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers - Set up, operate, or tend machines that extrude and form continuous filaments from synthetic materials, such as liquid polymer, rayon, and fiberglass.	Moderate-term on-the-job training	\$15.90 \$33,060	37 1 D
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.	Long-term on-the-job training	\$13.19 \$27,430	1,136 26 D
51-7041 Sawing Machine Setters, Operators, and Tenders, Wood - Set up, operate, or tend wood sawing machines. Includes head sawyers.	Moderate-term on-the-job training	\$11.87 \$24,690	1,036 19 D
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.	Moderate-term on-the-job training	\$11.61 \$24,150	1,136 27 D
51-8013 Power Plant Operators - Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators.	Long-term on-the-job training	\$31.66 \$65,850	260 14 A
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.	Long-term on-the-job training	\$15.19 \$31,600	1,300 26 D
51-8092 Gas Plant Operators - Distribute or process gas for utility companies and others by controlling compressors to maintain specified pressures on main pipelines.	Long-term on-the-job training	\$26.70 \$55,540	288 19 AA
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.	Long-term on-the-job training	\$23.28 \$48,420	397 31 AA
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.	Short-term on-the-job training	\$12.36 \$25,700	64 2 D
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.	Moderate-term on-the-job training	\$13.96 \$29,030	1,088 22 D
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.	Moderate-term on-the-job training	\$14.89 \$30,980	1,272 61 AA
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.	Moderate-term on-the-job training	\$14.61 \$30,380	6,092 105 D
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.	Short-term on-the-job training	\$12.94 \$26,910	3,875 67 D

Occupation	Education	Earnings Hourly/ Annual	Total Workers Annual Openings Growth Rate
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.	Moderate-term on-the-job training	\$16.35 \$34,010	727 19 D
51-9123 Painting, Coating, and Decorating Workers - Paint, coat, or decorate articles, such as furniture, glass, plateware, pottery, jewelry, cakes, toys, books, or leather.	Short-term on-the-job training	\$10.08 \$20,970	299 15 A
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.	Moderate-term on-the-job training	\$15.96 \$33,190	1,941 33 D
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.	Bachelor's degree	N/A \$95,600	44 2 D
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.	Postsecondary vocational training	N/A \$68,610	476 16 D
53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians - Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.	Moderate-term on-the-job training	\$14.35 \$29,850	52 3 AA
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.	Moderate-term on-the-job training	\$11.90 \$24,750	371 6 D
53-3022 Bus Drivers, School - Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.	Moderate-term on-the-job training	\$11.39 \$23,690	5,998 128 BA
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.	Short-term on-the-job training	\$12.88 \$26,790	3,611 59 D
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.	Short-term on-the-job training	\$17.04 \$35,450	33,247 541 D
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.	Short-term on-the-job training	\$12.62 \$26,240	6,752 110 D
53-3041 Taxi Drivers and Chauffeurs - Drive automobiles, vans, or limousines to transport passengers. May occasionally carry cargo.	Short-term on-the-job training	\$8.93 \$18,570	1,220 40 A
53-4011 Locomotive Engineers - Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, electronic or manual signals, and railroad rules and regulations.	Moderate-term on-the-job training	\$20.49 \$42,610	582 17 D
53-4031 Railroad Conductors and Yardmasters - Conductors coordinate activities of train crew on passenger or freight train. Coordinate activities of switch-engine crew within yard of railroad, industrial plant, or similar location. Yardmasters coordinate activities of workers engaged in railroad traffic operations, such as the makeup or breakup of trains, yard switching, and review train schedules and switching orders.	Moderate-term on-the-job training	\$21.83 \$45,410	490 18 D
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.	Short-term on-the-job training	\$20.73 \$43,120	75 3 D
53-7011 Conveyor Operators and Tenders - Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, or vehicles. May control speed and routing of materials or products.	Short-term on-the-job training	\$14.86 \$30,910	843 26 D
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.	Long-term on-the-job training	\$18.46 \$38,400	666 15 D
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.	Moderate-term on-the-job training	\$15.54 \$32,320	980 30 D
53-7033 Loading Machine Operators, Underground Mining - Operate underground loading machine to load coal, ore, or rock into shuttle or mine car or onto conveyors.	Moderate-term on-the-job training	\$16.39 \$34,090	21 2 A
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.	Short-term on-the-job training	\$13.02 \$27,090	7,050 207 D
53-7062 Laborers and Freight, Stock, and Material Movers, Hand - Manually move freight, stock, or other materials or perform other unskilled general labor. Includes all unskilled manual laborers not elsewhere classified.	Short-term on-the-job training	\$10.48 \$21,790	24,731 834 D
53-7063 Machine Feeders and Offbearers - Feed materials into or remove materials from machines or equipment that is automatic or tended by other workers.	Short-term on-the-job training	\$11.93 \$24,820	4,019 59 D
53-7081 Refuse and Recyclable Material Collectors - Collect and dump refuse or recyclable materials from containers into truck. May drive truck.	Short-term on-the-job training	\$11.52 \$23,970	1,788 59 BA



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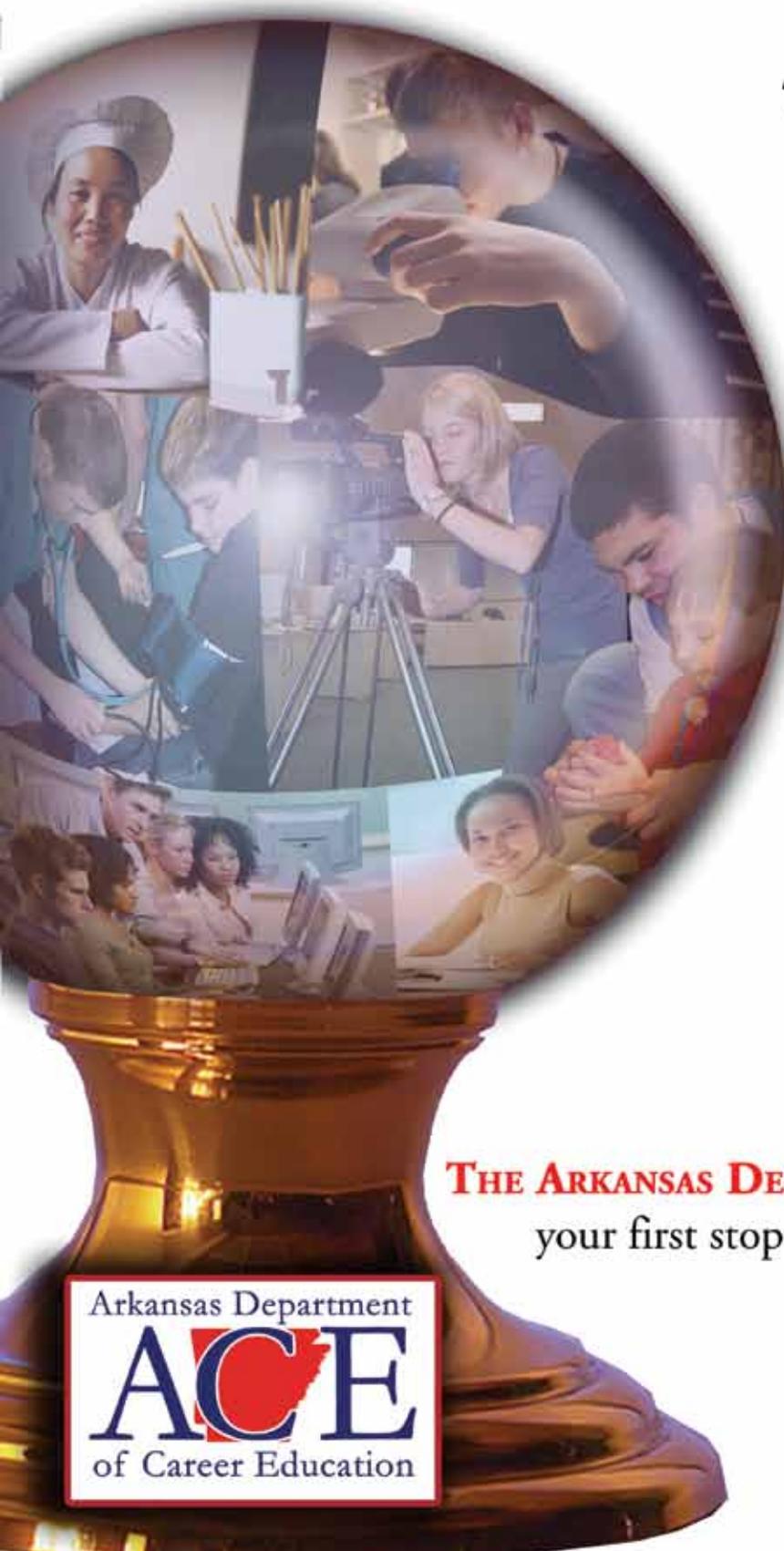
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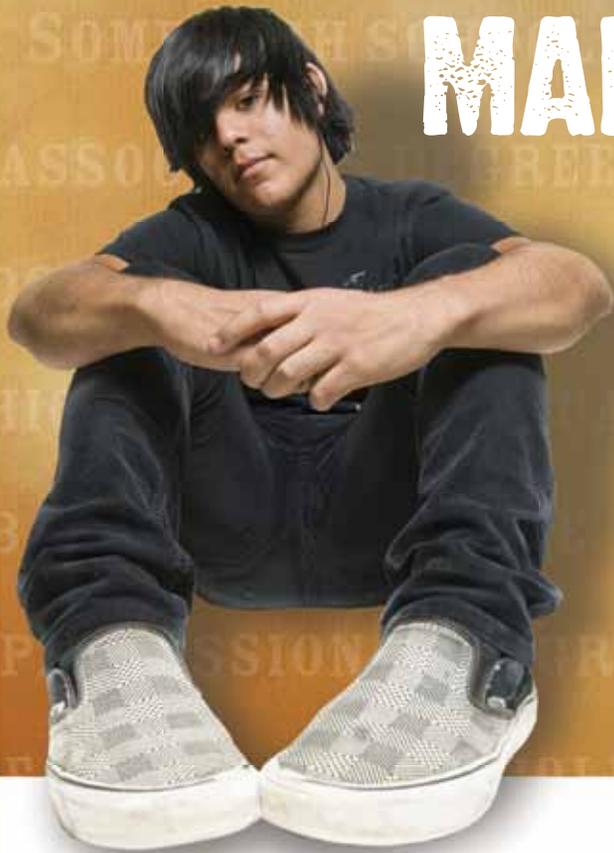
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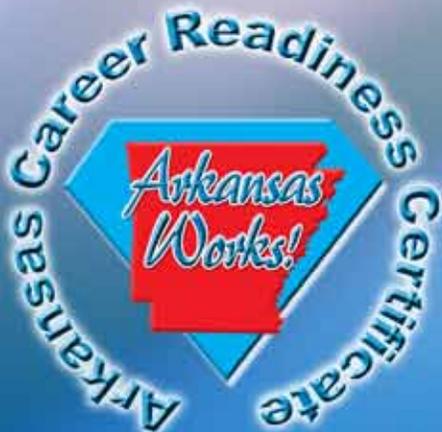
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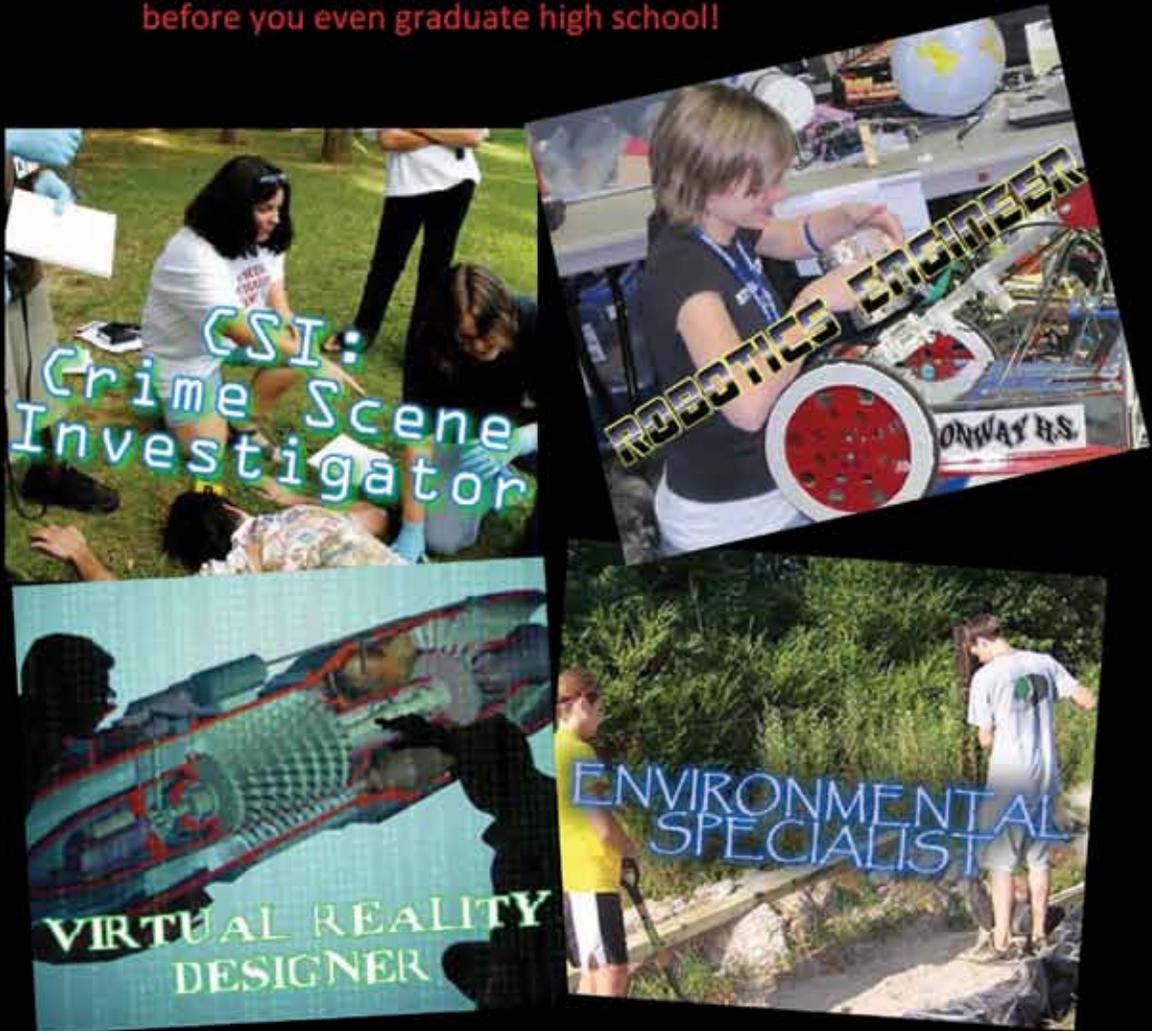
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% High School to College	3.10%	3.40%	5.80%	6.40%
% College to Pro	1.20%	0.90%	1.80%	8.90%
% High School to Pro	0.03%	0.02%	0.08%	0.44%

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

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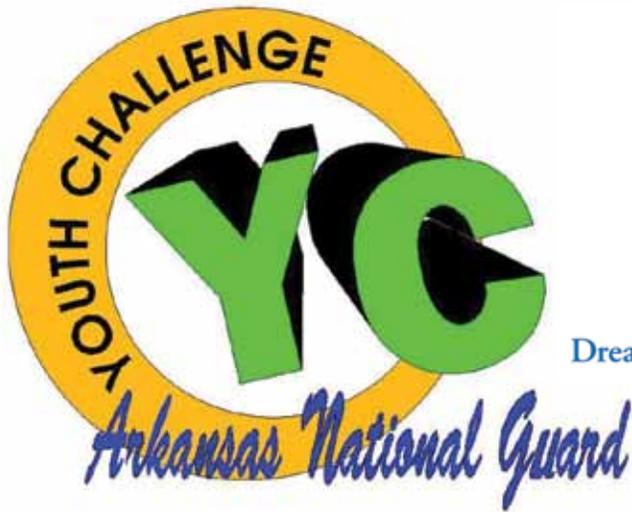
Reporters and Correspondents

Athletic Trainers

Public Relations Specialists

Physical Therapists

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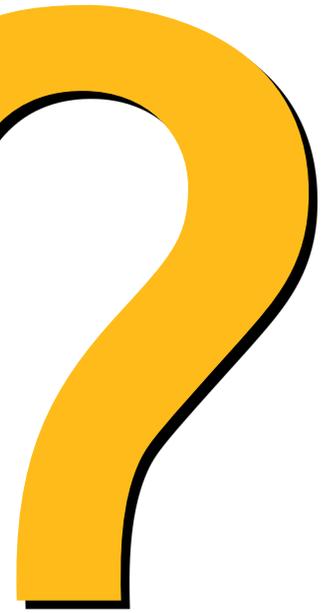


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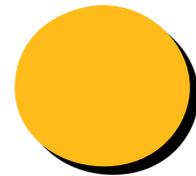
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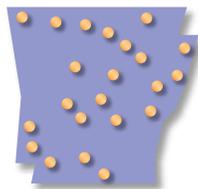
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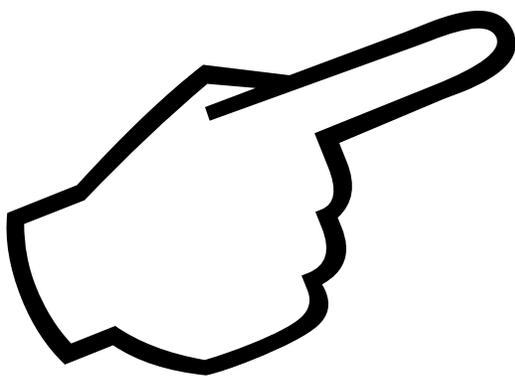
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Career Watch Arkansas

Department of Workforce Services

Artee Williams

Director

Department of Workforce Services

Ron White

Program Operations Manager

Labor Market Information

Department of Workforce Services

Amy Theriac

Editor

Occupational/Career Information staff

Belinda Hodges

Shirley Johnson

Brian Pulliam

Career Watch Arkansas is an annual publication of the Department of Workforce Services.

The *Career Watch Arkansas Teacher's Guide* and other educational materials are available in PDF format at www.discover.arkansas.gov under the LMI Publications link.

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.

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Department of Workforce Services

Amy Theriac

Career Watch Editor

Occupational Career Information

Labor Market Information

P.O. Box 2981

Little Rock, AR 72203

Telephone: (501) 682-3117

Voice: 1-800-285-1121

TDD: 1-800-285-1131

Fax: (501) 682-3186

e-mail: amy.theriac@arkansas.gov

adws.careerwatch@arkansas.gov

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TDD: 1-800-285-1131

Fax: (501) 682-3186

e-mail: amy.theriac@arkansas.gov

adws.careerwatch@arkansas.gov

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