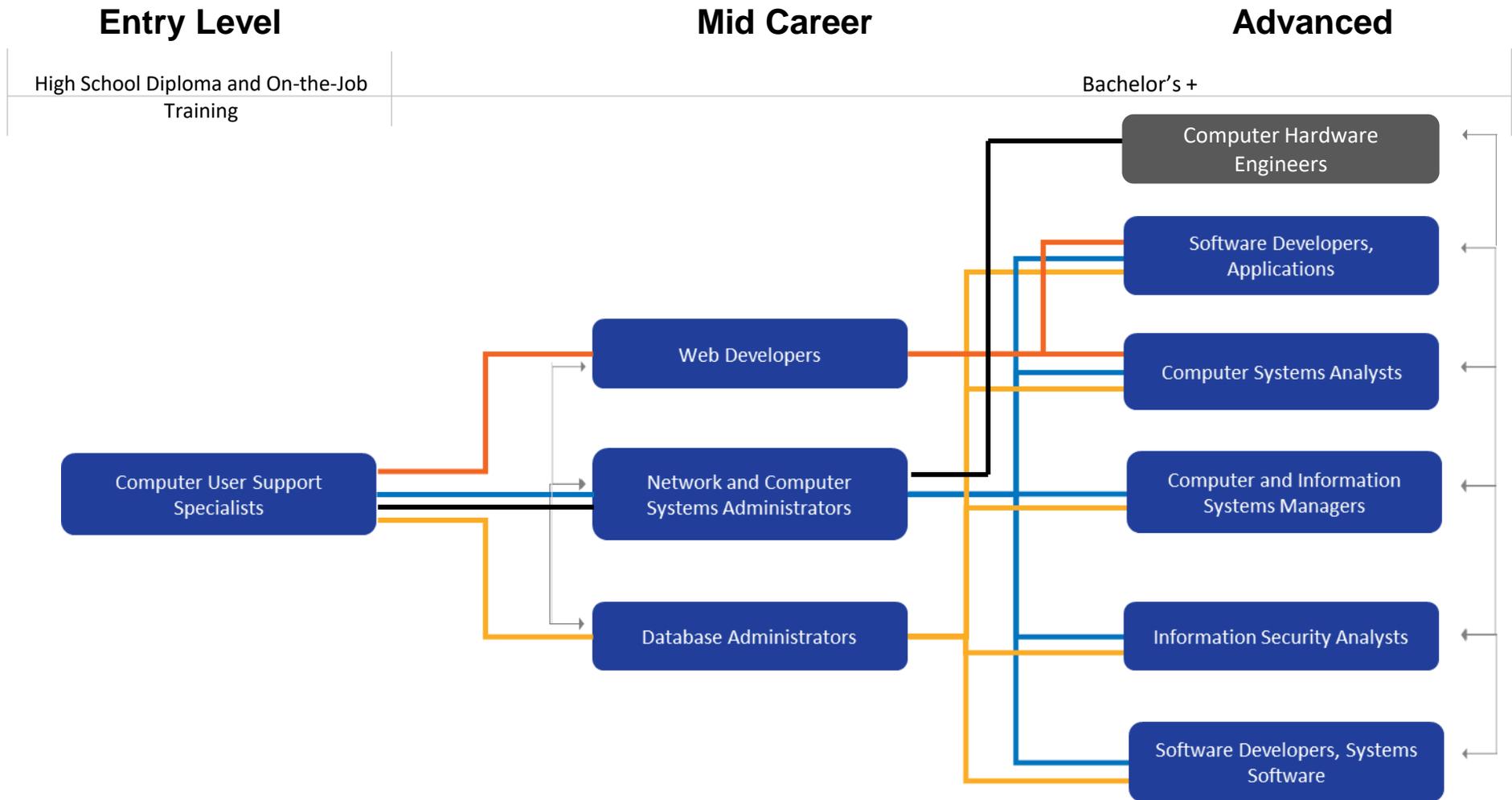


Information Services Ecosystem Career Lattice



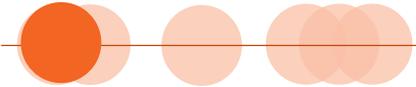
-  = Transferrable Occupation
-  = An affiliated occupation not within the 100 Critical Occupation List
-  = An Occupation within the 100 Critical Occupation List

The lines within this career lattice provide potential pathways that workers can follow within this industry ecosystem. The colors are simply to differentiate one pathway option from the other.

Computer User Support Specialists Occupational Profile

MEDIAN SALARY & WAGES

\$19.69/hour



COMMON JOB TITLES

- IT Help Desk Specialist
- IT Support Analyst
- Computer Systems Specialist
- Desktop Support Technician

REQUESTED EDUCATION



TOP SKILLS REQUESTED

- Reading Comprehension
- Active Listening
- Speaking
- Critical Thinking
- Complex Problem Solving
- Writing
- Judgment and Decision Making
- Active Learning
- Systems Analysis
- Monitoring

TOTAL JOBS FOR 2028

8,244



COMMON KNOWLEDGE COMPETENCIES

- Computers and Electronics
- English Language
- Customer and Personal Service
- Telecommunications

TOP CERTIFICATIONS REQUESTED

- CompTIA Network+
- CompTIA Security+
- Microsoft Certified Professional
- Microsoft Certified Systems Engineer

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

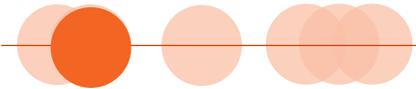


Creative Industries

Web Developers Occupational Profile

MEDIAN SALARY & WAGES

\$24.34/hour



COMMON JOB TITLES

Web Developer

Java Developer

Front-End Developer

Sales Representative

REQUESTED EDUCATION



TOP SKILLS REQUESTED

Programming

Reading Comprehension

Critical Thinking

Operations Analysis

Complex Problem Solving

Active Listening

Active Learning

Judgment and Decision Making

Speaking

Writing

TOTAL JOBS FOR 2028

1,096



COMMON KNOWLEDGE COMPETENCIES

Computers and Electronics

English Language

Mathematics

Communications and Media

TOP CERTIFICATIONS REQUESTED

Microsoft Certified Professional

Microsoft Certified Solution Developer

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

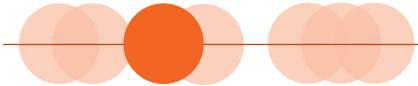


Creative Industries

Network and Computer Systems Administrators Occupational Profile

MEDIAN SALARY & WAGES

\$30.52/hour



COMMON JOB TITLES

Systems Administrator

Network Engineer

IT Network Administrator

Systems Engineer

REQUESTED EDUCATION

High School

Post-Secondary Certificate

Bachelor's+

TOP SKILLS REQUESTED

Reading Comprehension

Critical Thinking

Judgment and Decision Making

Systems Analysis

Active Listening

Monitoring

Complex Problem Solving

Troubleshooting

Systems Evaluation

Programming

TOTAL JOBS FOR 2028

3,019



COMMON KNOWLEDGE COMPETENCIES

Computers and Electronics

English Language

Customer and Personal Service

Engineering and Technology

TOP CERTIFICATIONS REQUESTED

CompTIA Security+

Cisco Certified Network Associate

Cisco Certified Network Professional

Microsoft Certified Systems Engineer

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

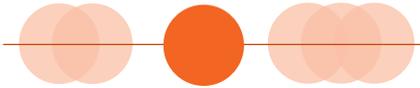


Creative Industries

Database Administrators Occupational Profile

MEDIAN SALARY & WAGES

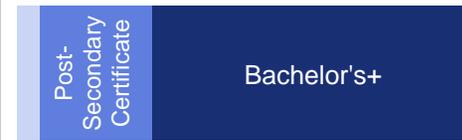
\$33.23/hour



COMMON JOB TITLES

- Database Administrator
- Data Analyst
- Data Modeler
- Database Developer

REQUESTED EDUCATION

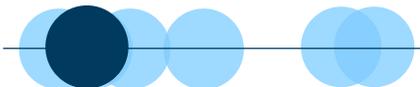


TOP SKILLS REQUESTED

- Critical Thinking
- Complex Problem Solving
- Reading Comprehension
- Active Listening
- Active Learning
- Judgment and Decision Making
- Writing
- Speaking
- Programming
- Monitoring

TOTAL JOBS FOR 2028

1,000



COMMON KNOWLEDGE COMPETENCIES

- Computers and Electronics
- English Language
- Mathematics
- Telecommunications

TOP CERTIFICATIONS REQUESTED

- CompTIA Security+
- Microsoft Certified Systems Engineer
- Microsoft Certified IT Professional
- Microsoft Certified Database Administrator

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

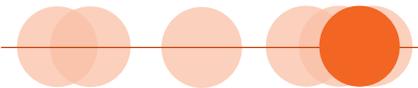


Creative Industries

Computer Hardware Engineers Occupational Profile

MEDIAN SALARY & WAGES

\$55.35/hour



COMMON JOB TITLES

Computer Hardware Engineer

Computer Network Engineers

REQUESTED EDUCATION

Bachelor's+

TOP SKILLS REQUESTED

Monitoring

Systems Analysis

Systems Evaluation

Judgment and Decision Making

Critical Thinking

Complex Problem Solving

Operations Analysis

Speaking

Reading Comprehension

Active Listening

TOTAL JOBS FOR 2026

4,000



COMMON KNOWLEDGE COMPETENCIES

Computers and Electronics

Engineering and Technology

Design

Mathematics

TOP CERTIFICATIONS REQUESTED

CompTIA Server+

Cisco Certified Technician

BICSI Technician

CompTIA A+

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

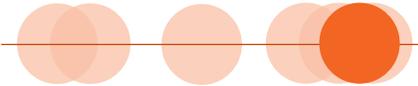


Creative Industries

Software Developers, Applications Occupational Profile

MEDIAN SALARY & WAGES

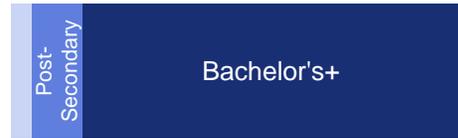
\$39.05/hour



COMMON JOB TITLES

Software Developers

REQUESTED EDUCATION



TOP SKILLS REQUESTED

- Programming
- Systems Analysis
- Systems Evaluation
- Judgment and Decision Making
- Critical Thinking
- Complex Problem Solving
- Operations Analysis
- Speaking
- Reading Comprehension
- Active Listening

TOTAL JOBS FOR 2028

4,923



COMMON KNOWLEDGE COMPETENCIES

- Computers and Electronics
- Engineering and Technology
- Mathematics
- English Language

TOP CERTIFICATIONS REQUESTED

- CompTIA Security+
- Cisco Certified Network Professional
- Microsoft Certified Solution Developer
- Microsoft Certified Professional Developer

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

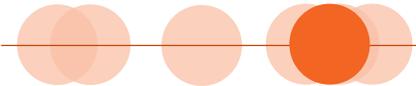


Creative Industries

Computer Systems Analysts Occupational Profile

MEDIAN SALARY & WAGES

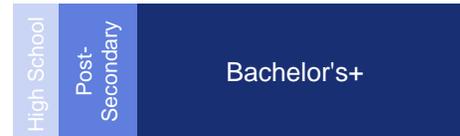
\$36.73/hour



COMMON JOB TITLES

- Systems Analyst
- Business Analyst (Financial)
- Business Analyst (Computer)
- Information Technology (IT) Systems Analyst

REQUESTED EDUCATION



TOP SKILLS REQUESTED

- Reading Comprehension
- Active Listening
- Critical Thinking
- Speaking
- Systems Analysis
- Writing
- Active Learning
- Complex Problem Solving
- Judgment and Decision Making
- Monitoring

TOTAL JOBS FOR 2028

3,757



COMMON KNOWLEDGE COMPETENCIES

- Computers and Electronics
- Customer and Personal Service
- English Language
- Mathematics

TOP CERTIFICATIONS REQUESTED

- PMI Certified
- Master Of Business Administration
- CompTIA Security+
- Microsoft Certified Solution Developer (MCSD)

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

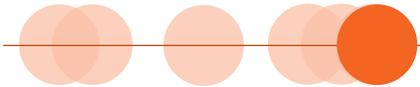


Creative Industries

Computer and Information Systems Managers Occupational Profile

MEDIAN SALARY & WAGES

\$47.42/hour



COMMON JOB TITLES

Program Manager
 Information Technology Manager
 Director of Technology
 Project Manager (Management)

REQUESTED EDUCATION



TOP SKILLS REQUESTED

Critical Thinking
 Reading Comprehension
 Active Listening
 Speaking
 Monitoring
 Judgment and Decision Making
 Writing
 Coordination
 Complex Problem Solving
 Social Perceptiveness

TOTAL JOBS FOR 2028

3,561



COMMON KNOWLEDGE COMPETENCIES

Computers and Electronics
 Customer and Personal Service
 Administration and Management
 Engineering and Technology

TOP CERTIFICATIONS REQUESTED

Master Of Business Administration
 In Risk/Information Systems Control
 Certified Information Security Manager
 Certified Information Systems Security Professional

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education

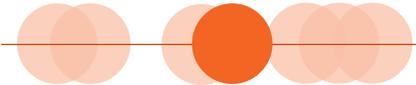


Creative Industries

Information Security Analysts Occupational Profile

MEDIAN SALARY & WAGES

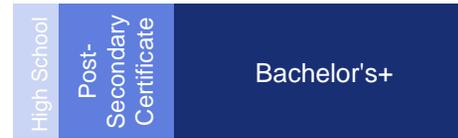
\$34.44/hour



COMMON JOB TITLES

- Information Security Analyst
- Security Engineer
- Information Security Specialist
- Security Officer (Computer and Mathematical)

REQUESTED EDUCATION



TOP SKILLS REQUESTED

- Reading Comprehension
- Complex Problem Solving
- Critical Thinking
- Speaking
- Active Listening
- Writing
- Judgment and Decision Making
- Time Management
- Active Learning
- Monitoring

TOTAL JOBS FOR 2028

707



COMMON KNOWLEDGE COMPETENCIES

- Computers and Electronics
- Telecommunications
- Administration and Management
- English Language

TOP CERTIFICATIONS REQUESTED

- CompTIA Security+
- Global Information Assurance
- Certified Information Security Manager
- Certified Information Systems Security Professional

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education



Creative Industries

Software Developers, Systems Software Occupational Profile

MEDIAN SALARY & WAGES

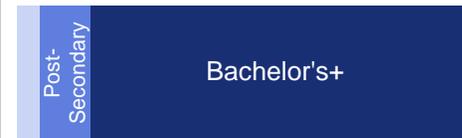
\$35.78/hour



COMMON JOB TITLES

- Systems Engineer
- Software Engineer
- Systems Integrator
- Systems Engineer (Architecture and Engineering)

REQUESTED EDUCATION

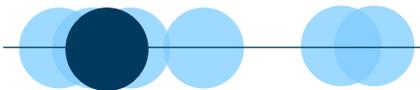


TOP SKILLS REQUESTED

- Reading Comprehension
- Active Listening
- Critical Thinking
- Speaking
- Complex Problem Solving
- Mathematics
- Social Perceptiveness
- Judgment and Decision Making
- Writing
- Monitoring

TOTAL JOBS FOR 2028

2,536



COMMON KNOWLEDGE COMPETENCIES

- Computers and Electronics
- Engineering and Technology
- Mathematics
- Telecommunications

TOP CERTIFICATIONS REQUESTED

- CompTIA Security+
- Microsoft Certified Systems Engineer
- VMware Certified Professional (VCP)
- Certified Information Systems Security Professional

SIMILAR INDUSTRIES



Aerospace & Defense



Agriculture & Biosciences



Energy



Information & Financial Systems



Transportation & Distribution



Construction



Health Care



Education



Creative Industries

Oklahoma's Ecosystems

WHAT IS AN ECONOMIC ECOSYSTEM?

Oklahoma has identified nine driver and complementary economic systems representing the most prominent industries in terms of wealth generation and growth potential. Driver ecosystems drive wealth generation in Oklahoma, while the complementary ecosystems help to expand wealth in the economy and provide the infrastructure and services to support the driver systems in the state.

- Driver ecosystems: Aerospace and Defense, Agriculture and Biosciences, Energy, Information and Financial Systems, and Transportation and Distribution.
- Complementary Ecosystems: Construction, Health care, Education, and Creative industries.

WHAT ARE THE 100 CRITICAL OCCUPATIONS?

These occupations represent the most pressing needs in each of Oklahoma's Driver and Complementary Economic Systems necessary for the state's continued growth and economic prosperity. A workforce pipeline for each of the top 100 critical occupations is required for Oklahoma's businesses to grow and for Oklahoma citizens to earn a prosperous living. Factors included in the selection process demonstrate the values of job growth, wealth generation, and education, as outlined below:

- Job growth: all occupations have positive forecasted employment growth over the next ten years
- Wealth Generation: all occupations offer median wages greater than or equal to \$12.00 per hour
- Education: occupations requiring "no formal education" are eliminated, except those that offer greater than or equal to \$20.00 per hour.

WHAT ARE TRANSFERABLE OCCUPATIONS?

There are occupations that can provide valuable on-the-job training for individuals interested in the 100 Critical Occupations. These are generally entry-level or mid-career level occupations that can help individuals develop the knowledge, skills, and abilities needed to move forward on their career paths.

WHAT ARE CAREER PATHWAYS?

Career pathways are designed to help people who are looking to make the next step in their careers both envision and plan for their long-term employment goals. The recommended pathways in this report are based on forecasted employment prospects as well as knowledge, skills and ability profile data by specific occupation. These data were gathered from numerous employer-demand driven data sources. Based on these data, Oklahoma Works determined similarities and difference between each occupation's required skill sets and developed possible career pathways options.



Glossary

ABILITIES – the proficiency, skills, or talent within a particular area.

CAREER PATHWAY – a career pathway means a combination of relevant, rigorous and high-quality education, training, and supportive services that aligns both vertically and horizontally across Secondary Education, Adult Basic Education, Workforce Training and Development, Career and Technical Education, and Postsecondary Education systems, pathways, and programs.

CERTIFICATION – third party accrediting or authorizing agency or person who assess, verifies, and provides an official documentation that attests a level of achievement.

COMPETENCIES – an individual’s ability to do a job properly through a set of behaviors.

INDUSTRY-ALIGNED CREDENTIAL – credentials whose standards are aligned to industry-recognized standards.

INDUSTRY-ENDORSED CREDENTIAL – credentials whose standards are aligned to and endorsed by industry.

INDUSTRY-RECOGNIZED CREDENTIAL – an industry-recognized credential is one that either is developed and offered by, or endorsed by a nationally-recognized industry association or organization representing a sizeable portion of the industry sector, or a credential that is sought or accepted by companies within the industry sector for purposes of hiring or recruitment which may include credentials from vendors of certain products.¹

KNOWLEDGE – the skills and information acquired through education or experience.

MEDIAN HOURLY EARNINGS – hourly earnings for the occupation reported at the 50th percentile.

REQUESTED EDUCATION – the highest level of education for workers within the given occupational category. Please note these are not the level of education of new incoming workers but of workers currently employed within these positions.

SKILLS – the ability or expertise to do something well.

TOTAL JOBS – estimated number of jobs in the given year, taken as average over a period of 12-months. This value includes both full- and part-time jobs.



¹For this analysis, TPMA utilized certifications data from a third-party data aggregator, Economic Modeling Specialists, Inc., which daily accesses over 300 million unique job postings records. Though these certifications have not been vetted by Oklahoma Works, they are observed as commonly requested by industry employers.