

# 2024 KSDE CTE Resource Guide



# 2024 KSDE CTE Resource Guide

The Kansas State Department of Education (KSDE) Career and Technical Education (CTE) Resource Guide is a comprehensive guide containing relevant information regarding career opportunities available for Kansas students to explore.

Career and Technical Education is organized into educational activities that offer a sequence of courses. This provides individuals with the rigorous academic content and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions, which may include high-skill, high-wage or in-demand industry sectors or occupations.

In Kansas, we focus on seven industries. Throughout this guide they are consistently identified by colors and icons. Occupations are then organized around knowledge and skills that have common characteristics and job duties, known as career clusters. Kansas identifies a total of 16 broad career clusters. Additionally, 36 career pathways represent the career, education and training options available to students in each of these industries. On the next page you will find the “Kansas CTE Sunflower” image, along with a list of industries listed in bold, and the clusters italicized with the pathways listed below each of them.



## OVERALL RESOURCES

- [2024-2025 Career Cluster Handbook](#)
- [CTE Course Competencies and Indicators](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's](#) (ks.gov)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters](#) (ks.gov)
- [My Next Move](#)
- [O\\*NET OnLine](#) (onetonline.org)
- [K-12 : Student Resources : U.S. Bureau of Labor Statistics](#) (bls.gov)

## POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\)](#) kansasregents.org
- [Tiered Technical Courses at Kansas Community and Technical Colleges](#) (ksde.org)

## POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents](#) (ksdegreestats.org)
- [Degree Stats Lesson](#) (ksde.org)
- [K-TIP Report](#) (kansasregents.org)
- [Program Alignment](#) (kansasregents.org)
- [Kansas Post-Secondary Exploration Guide](#) (ksde.org)

## **FAMILY & CONSUMER SCIENCES**

### *Hospitality & Tourism*

- Restaurant & Event Management
- Travel & Tourism

### *Human Services*

- Early Childhood Development & Services
- Family, Community & Consumer Services
- Fashion, Apparel, Interior Design (FAID)

## **PUBLIC SERVICES**

### *Government & Public Administration*

- Government & Public
- Administration

### *Education & Training*

- Teaching/Training

### *Law, Public Safety & Security*

- Corrections, Security Law & Law
- Enforcement Services
- Emergency & Fire
- Management Services

## **MEDIA & TECHNOLOGY**

### *Arts, AV Technology & Communications*

- Graphic Design
- Digital Media

### *Information Technology*

- Programming & Software Development
- Information Support & Services
- Network Systems
- Web & Digital Communications

## **HEALTH**

### *Health & Biosciences*

- Biochemistry
- Biomedical
- Health Science

## **DESIGN, PRODUCTION & REPAIR**

### *Architecture & Construction*

- Construction & Design

### *Engineering*

- Energy
- Engineering & Applied Mathematics
- Aviation Production

### *Transportation*

- Mobile Equipment Maintenance
- Aviation Maintenance

### *Manufacturing*

- Manufacturing

## **AGRICULTURE**

### *Agriculture, Food & Natural Resources*

- Plant Systems
- Animal Science
- Biotechnology in Agriculture
- Comprehensive Agricultural Science
- Agribusiness Systems
- Natural Resources & Environmental Services
- Power, Structural & Technical Systems
- Food Products & Processing Systems

## **BUSINESS**

### *Marketing*

- Marketing

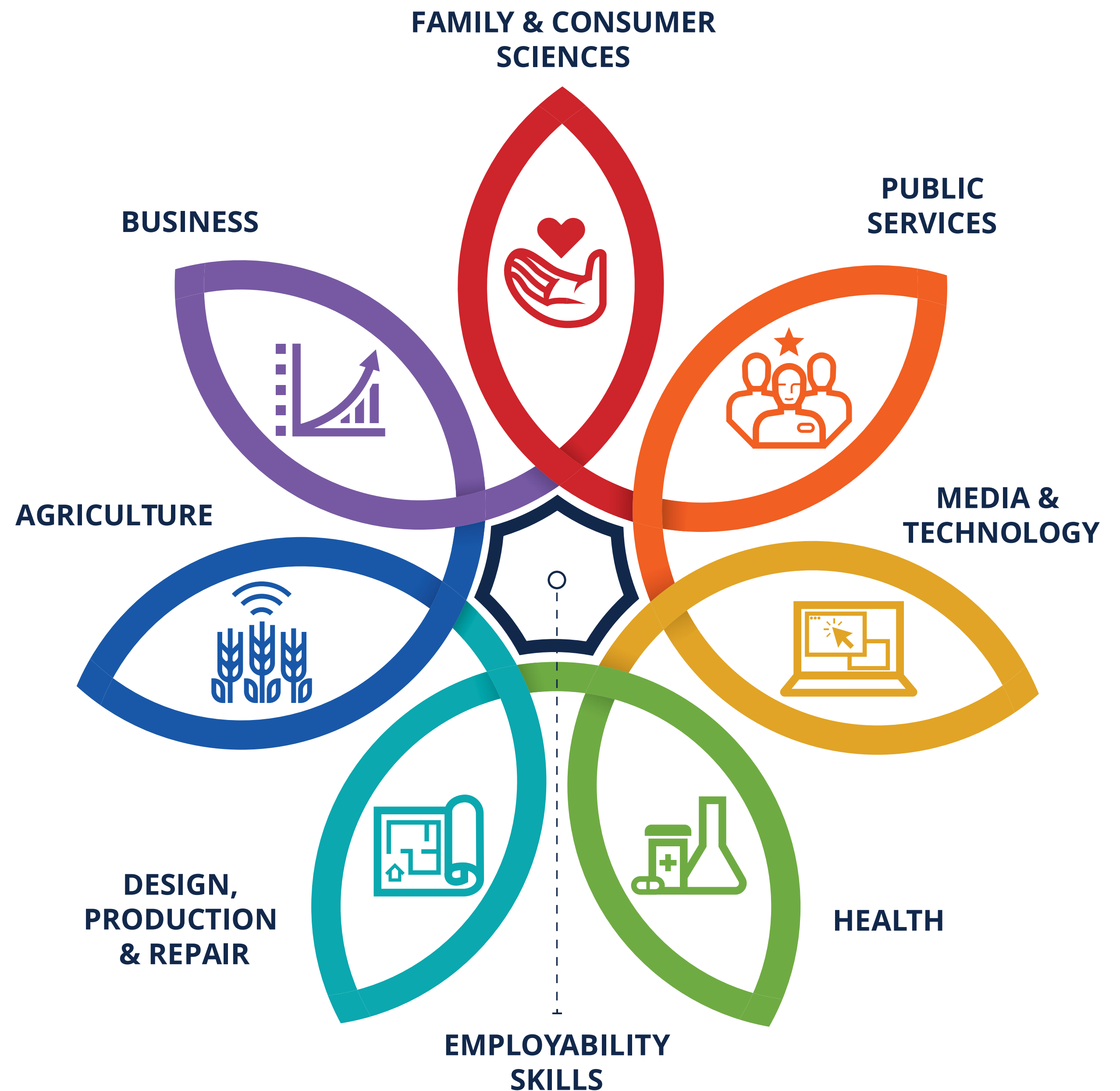
### *Finance*

- Business Finance

### *Business Management & Administration*

### *Administration*

- Business Management & Entrepreneurship





# Family & Consumer Sciences

Hospitality & Tourism  
Human Services



FAMILY & CONSUMER SCIENCES INDUSTRY

# Hospitality & Tourism

Travel & Tourism | Restaurant & Event Management

## Occupation Overview

Occupations & Degrees		Median Annual Wage
Short-Term On-The-Job Training		
	Fast Food & Counter Workers	\$23,240
	Waiters & Waitresses	\$27,260
	Janitors & Cleaners, Except Maids & Housekeeping Cleaners	\$29,120
H.S. Diploma & Short to Moderate-Term On-The-Job Training		
	Bakers	\$25,260
	Hotel, Motel, & Resort Desk Clerks	\$27,250
	Cooks, Restaurant	\$28,600
H.S. Diploma & Work Experience		
*	First-Line Supervisors of Housekeeping & Janitorial Workers	\$42,020
*	Chefs & Head Cooks	\$49,120
*	Food Service Managers	\$61,480
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Travel & Tourism

## Pathway



This pathway prepares individuals to serve as general managers and directors of hospitality operations on a system-wide basis, including both travel arrangements and promotion and the provision of traveler facilities. It includes instruction in principles of operations in the travel and tourism, hotel and lodging facilities, food services, and recreation facilities industries; hospitality marketing strategies; hospitality planning; management and coordination of franchise and unit operations; business management; accounting and financial management; hospitality transportation and logistics; and hospitality industry policies and regulations.

### INTRODUCTORY LEVEL COURSES

- Business Essentials
- Introduction to Family and Consumer Sciences
- Career and Life Planning

### TECHNICAL LEVEL COURSES

- Entrepreneurship
- Principles of Marketing
- Culinary Essentials
- Foundations of Hospitality and Lodging
- Foundations of Travel and Tourism
- Nutrition and Wellness
- Event Planning and Management

### APPLICATION LEVEL COURSES

- Hospitality and Lodging Management
- Community Connections
- Career Connections

### OCCUPATIONS

First-Line Supervisors of Housekeeping and Janitorial Workers

Convention Services Manager

Events Manager/Planner

[POS for web.indd \(careertech.org\)](#)

Occupations & Degrees		Median Annual Wage
H.S. Diploma & Work Experience		
*	First-Line Supervisors of Housekeeping	\$42,020
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

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- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

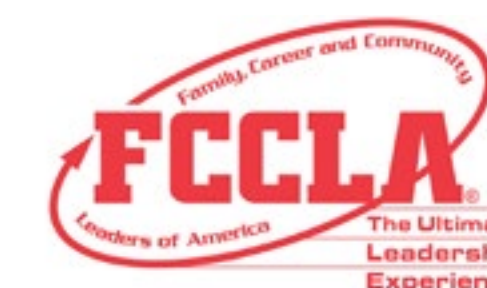
- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Cool Careers - Episode 19: Restaurant Manager](#)
- [Restaurant Manager | HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Hospitality & Tourism at My Next Move](#)

### STUDENT ORGANIZATION

[Family Career and Community Leaders of America, Kansas \(FCCLA\)](#)



[Kansas DECA](#)



# Restaurant & Event Management

## Pathway



This pathway prepares individuals to plan, supervise, and manage food and beverage preparation and service operations, restaurant facilities, and catering services. It includes instruction in the food/beverage industry operations, cost control, purchasing and storage, business administration, logistics, personnel management, culinary arts, restaurant and menu planning, executive chef functions, event planning and management, health and safety, insurance, and applicable law and regulations.

### INTRODUCTORY LEVEL COURSES

- Business Essentials
- Introduction to Family and Consumer Sciences
- Career and Life Planning

### TECHNICAL LEVEL COURSES

- Culinary Essentials
- Nutrition and Wellness

#### *Event Planning and Management Strand*

- Foundations of Travel and Tourism
- Event Planning and Management

#### *Culinary Arts and Management Strand*

- Culinary Arts I
- Culinary Arts II
- Baking and Pastry I
- Baking and Pastry II
- Food Science
- Event Planning and Management

#### *Additional*

- Entrepreneurship
- Principles of Marketing

### APPLICATION LEVEL COURSES

#### *Event Planning and Management Strand*

- Community Connections
- Career Connections

#### *Culinary Arts and Management Strand*

- Culinary Workplace Experience
- Community Connections
- Career Connections

### OCCUPATIONS

First-Line Supervisors of Housekeeping and Janitorial Workers

Chefs and Head Cooks

Food Service Managers

Occupations & Degrees		Median Annual Wage
H.S. Diploma & Work Experience		
*	First-Line Supervisors of Housekeeping and Janitorial Workers	\$42,020
*	Chefs and Head Cooks	\$49,120
*	Food Service Managers	\$61,480
* High Demand, High Wage Source: <a href="https://www.kslric.org/career-posters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- AAFCS Pre-Pac: Broad Field Family & Consumer Sciences
- AAFCS (pre-PAC): Culinary Arts
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- KS Restaurant & Hospitality Association: Pro-Start
- KS Restaurant & Hospitality: ServSafe – Food Handlers

### POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Restaurant & Hospitality: ServSafe – Manager

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- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://www.ksde.org/technical-education/tiered-technical-courses)

### POSTSECONDARY PROGRAMS

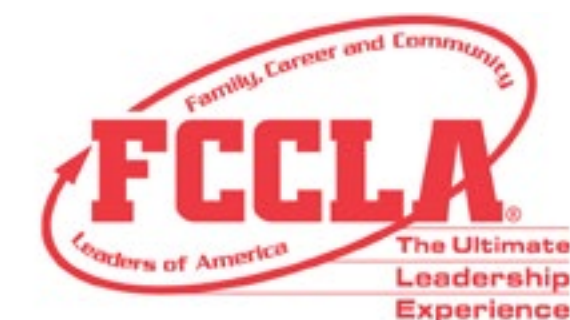
- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://www.ksdegreestats.org)
- [Degree Stats Lesson \(ksde.org\)](https://www.ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://www.kansasregents.org/k-tip-report)
- [Program Alignment \(kansasregents.org\)](https://www.kansasregents.org/program-alignment)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://www.ksde.org/kansas-post-secondary-exploration-guide)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://www.ksde.org/cte-course-competencies-and-indicators)
- [Cool Careers - Episode 19: Restaurant Manager](https://www.coolcareers.org/episode-19-restaurant-manager)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://www.ks.gov/kansas-labor-information-center-kllic-kansas-career-posters)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://www.bls.gov/occupations/high-demand-high-wage-jobs-bachelors)
- [Careers in Hospitality & Tourism at My Next Move](https://www.my-next-move.org/careers-in-hospitality-tourism)

### STUDENT ORGANIZATION

[Family Career and Community Leaders of America, Kansas \(FCCLA\)](https://www.fccla.org)



[Kansas DECA](https://www.kansasdeca.org)





FAMILY & CONSUMER SCIENCES INDUSTRY

# Human Services

Early Childhood Development & Services | Family, Community & Consumer Services | Fashion, Apparel, Interior Design (FAID)

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Moderate-Term On-The-Job Training</i>		
	Childcare Workers	\$23,440
	Social & Human Service Assistants	\$36,190
<i>Bachelor's Degree</i>		
*	Child, Family, and School Social Workers	\$46,740
*	Substance Abuse, Behavioral Disorder, & Mental Health Counselors	\$50,360
<i>Master's Degree &amp; Internship/Residency</i>		
*	Healthcare Social Workers	\$60,310
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Early Childhood Development & Services

## Pathway

This pathway prepares individuals to be primary providers of home, family, residential, or institutional-based child care services. It includes instruction in child growth and development, nutrition, recreation, planning and supervision of play and learning activities, child abuse and neglect prevention, parent-child relationships, and applicable legal and administrative requirements.



### INTRODUCTORY LEVEL COURSES

- Introduction to Family and Consumer Sciences
- Career and Life Planning

### TECHNICAL LEVEL COURSES

- Leadership Service in Action
- Strand 1*
- Orientation to Early Childhood Development
  - Foundations to Early Childhood Development
- Strand 2*
- Foundations to Early Childhood Development
  - Family Studies
  - Human Growth and Development - Early Years

### APPLICATION LEVEL COURSES

- Early Childhood Applications
- Community Connections
- Career Connections

### OCCUPATIONS

Childcare Workers

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Moderate-Term On-The-Job Training</i>		
	Childcare Workers	\$23,440
Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- AAFCS Pre Pac: Broad Field Family & Consumer Sciences
- AAFCS (pre-PAC): Early Childhood Education
- American Red Cross: Cardio Pulmonary Resuscitation (CPR)/Infant/Toddler CPR
- CareerSafe: OSHA Safety Certification (10 Hour)
- KCCTO: Foundations for Safe & Healthy Early Care Facilities: Module 1 (4 certifications)
- KCCTO: Foundations for Safe & Healthy Early Care Facilities: Module 2 (6 certifications)
- Council for Professional Recognition: Child Development Associates (CDA)
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

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- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

[CTE Course Competencies and Indicators \(ksde.org\)](#)

[Early Childhood Teacher | HirePaths - Help Your Kansas Kid Explore Careers](#)

[Cool Careers - Episode 17: Early Childhood Teacher](#)

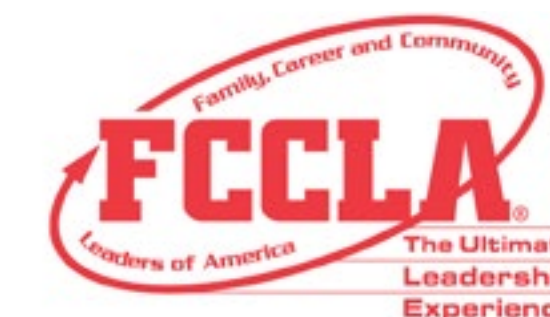
[Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)

[Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)

[Careers in Human Services at My Next Move](#)

### STUDENT ORGANIZATION

[Family Career and Community Leaders of America, Kansas \(FCCLA\)](#)



# Family, Community & Consumer Services

## Pathway

This pathway prepares individuals for employment in careers that relate to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.



### INTRODUCTORY LEVEL COURSES

- Introduction to Family and Consumer Sciences
- Career and Life Planning

### TECHNICAL LEVEL COURSES

- Culinary Essentials
- Nutrition and Wellness
- Family Studies
- Leadership Service in Action
- Relationships and Personal Development
- Human Growth and Development - Early Years
- Lifespan Development

### APPLICATION LEVEL COURSES

- Community Connections
- Career Connections

### OCCUPATIONS

- Adult Daycare Director
- Childcare Workers
- Child, family, or school social worker
- Community Service Director
- Director of childcare facility
- Geriatric services worker
- Sociologist
- Social services worker
- Personal or home care aide
- Leisure activities counselor
- Recreation worker
- Consumer credit counselor
- Personal financial advisor
- Social & Human Service Assistants

[Human Services | FCCLA](https://www.fccla.org/)  
([fccla.org](https://www.fccla.org/))

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Moderate-Term On-The-Job Training</i>		
	Childcare Workers	\$23,440
	Social & Human Service Assistants	\$36,190
<i>Bachelor's Degree</i>		
*	Child, Family, and School Social Workers	\$46,740
*	Substance Abuse, Behavioral Disorder, & Mental Health Counselors	\$50,360
<i>Master's Degree &amp; Internship/Residency</i>		
*	Healthcare Social Workers	\$60,310

\* High Demand, High Wage  
Source: [Kansas Labor Information Center \(KLIC\) - Career Posters \(ks.gov\)](https://www.klic.org/)

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- AAFCS Pre Pac: Broad Field Family & Consumer Sciences
- AAFCS (pre-PAC): Family & Community Services
- AAFCS (pre-PAC): Nutrition, Food & Wellness
- AAFCS (pre-PAC): Personal & Family Finances
- CareerSafe: OSHA Cyber Safety Awareness Training - Level 2
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

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- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://www.ksde.org/)

### POSTSECONDARY PROGRAMS

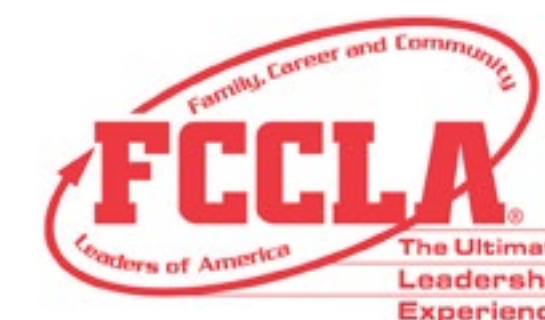
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- [Degree Stats Lesson \(ksde.org\)](https://www.ksde.org/)
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- [Program Alignment \(kansasregents.org\)](https://www.kansasregents.org/)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://www.ksde.org/)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://www.ksde.org/)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://www.ks.gov/)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://www.ks.gov/)
- [Careers in Human Services at My Next Move](https://www.ksde.org/)

### STUDENT ORGANIZATION

[Family Career and Community Leaders of America, Kansas \(FCCLA\)](https://www.fccla.org/)





# Fashion, Apparel, Interior Design (FAID)

## Pathway

This pathway prepares individuals in the areas of designing, producing and exhibiting apparel and textiles.



### INTRODUCTORY LEVEL COURSES

- Introduction to Family and Consumer Sciences
- Career and Life Planning
- Drafting
- Introduction to Drafting

### TECHNICAL LEVEL COURSES

- Essentials of FAID
- FAID Merchandising and Entrepreneurship

#### *Fashion and Apparel Design (Strand A)*

- Apparel Production I
- Apparel Production II
- Fashion Trends

#### *Interior Design (Strand B)*

- Interior Design I
- Interior Design II
- Architecture Design

### APPLICATION LEVEL COURSES

#### *Strands A and B*

- Career Connections
- FAID Studio

### OCCUPATIONS

- Interior Designers
- Textile Designers
- Fashion Designers

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- AAFCS (pre-PAC): Fashion, Textiles & Apparel
- AAFCS (pre-PAC): Interior Design Fundamentals
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

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- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://ksde.org/tiered-technical-courses)

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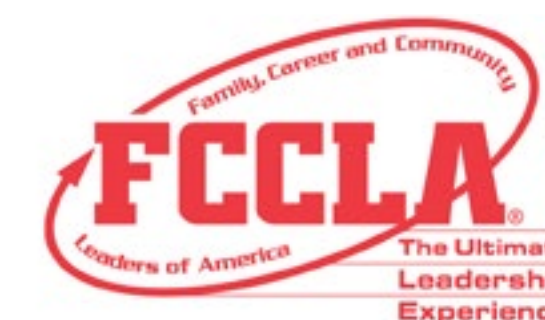
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- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://ksde.org/k-tip-report)
- [Program Alignment \(kansasregents.org\)](https://ksde.org/program-alignment)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org/kansas-post-secondary-exploration-guide)

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- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ksde.org/kansas-labor-information-center)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ksde.org/todays-occupations)
- [Careers in Human Services at My Next Move](https://ksde.org/careers-in-human-services)

### STUDENT ORGANIZATION

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# Public Services

**Government & Public Administration**  
**Education & Training**  
**Law, Public Safety & Security**





PUBLIC SERVICES INDUSTRY

# Government & Public Administration

Government & Public Administration

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Long-Term On-The-Job Training</i>		
	Court, Municipal, and License Clerks	\$40,580
*	Construction and Building Inspectors	\$61,550
<i>Bachelor's Degree</i>		
*	Occupational Health and Safety Specialists	\$69,540
<i>Master's Degree &amp; Internship/Residency</i>		
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Government & Public Administration

## Pathway



This pathway prepares individuals to serve as managers in the executive arm of local, state, and federal government and focuses on the systematic study of executive organization and management. It includes instruction in the roles, development, and principles of public administration; the management of public policy; executive-legislative relations; public budgetary processes and financial management; administrative law; public personnel management; professional ethics; and research methods.

### INTRODUCTORY LEVEL COURSES

- Introduction to Government and Public Administration
- Career and Life Planning
- U.S. History
- AP U.S. History
- American Government
- AP American Government

### TECHNICAL LEVEL COURSES

- Government and Public Administration Fundamentals
- IT for Service Professions
- Lifespan Development

#### Public Administration Strand

- Business Management
- Business Law
- Accounting
- Business Economics

#### Pre-Law Legal Assistance Strand

- Government and Public Media Relations
- Business Economics
- Business Law
- Practical Law

### APPLICATION LEVEL COURSES

- Foundations in Law
- Career Connections
- Governance Applications
- Legal Proceedings

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Long-Term On-The-Job Training</i>		
	Court, Municipal, and License Clerks	\$40,580
*	Construction and Building Inspectors	\$61,550
<i>Bachelor's Degree</i>		
*	Occupational Health and Safety Specialists	\$69,540
<i>Master's Degree &amp; Internship/Residency</i>		
* High Demand, High Wage Source: <a href="https://www.kslc.org/career-posters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

NC3: Data Analytics/Harnessing the Power of Data

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- [Careers in Government & Public Administration at My Next Move](https://www.ksde.org/careers-in-government-public-administration)
- [Kansas Mock Trial \(ksbar.org\)](https://www.ksbar.org)



PUBLIC SERVICES INDUSTRY

# Education & Training

Teaching / Training

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Associate Degree</i>		
	Teaching Assistants, Except Postsecondary	\$28,320
	Preschool Teachers, Except Special Education	\$37,690
	Self-Enrichment Teachers	\$38,020
<i>Bachelor's Degree</i>		
*	Kindergarten Teachers, Except Special Education	\$50,750
*	Elementary School Teachers, Except Special Education	\$50,850
*	Secondary School Teachers, Except Special & Career/ Technical Education	\$58,060
*	Middle School Teachers, Except Special & Career/ Technical Education	\$58,670
<i>Master's Degree</i>		
*	Educational, Guidance, & Career Counselors & Advisors	\$51,100
*	Instructional Coordinators	\$63,710
*	Education Administrators, Kindergarten through Secondary	\$96,610
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Teaching / Training

## Pathway

This pathway focuses on the general theory and practice of learning and teaching, the basic principles of educational psychology, the art of teaching, the planning and administration of educational activities, school safety and health issues, and the social foundations of education.



### INTRODUCTORY LEVEL COURSES

- Introduction to Family and Consumer Sciences
- Career and Life Planning

### TECHNICAL LEVEL COURSES

- Teaching as a Career
- Educational Leadership and Training A
- Education Research and Innovation
- Family Studies
- Teaching Observation
- Human Growth and Development - Early Years
- Lifespan Development

### APPLICATION LEVEL COURSES

- Teaching Internship
- Educational Leadership and Training B

### OCCUPATIONS

- Teaching Assistants, Except Postsecondary
- Tutors and Teachers and Instructors, All Other
- Substitute Teachers, Short-Term
- Preschool Teachers, Except Special Education
- Self-Enrichment Teachers
- Coaches and Scouts
- Kindergarten Teachers, Except Special Education
- Elementary School Teachers, Except Special Education
- Secondary School Teachers, Except Special and Career/Technical Education
- Middle School Teachers, Except Special and Career/Technical Education
- Educational, Guidance, and Career Counselors and Advisors
- Postsecondary Teachers, All Other
- Instructional Coordinators
- Educational Administrators, Kindergarten through Secondary
- Education Administrators, Postsecondary

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Associate Degree</i>		
	Teaching Assistants, Except Postsecondary	\$28,320
	Tutors and Teachers and Instructors, All Other	\$29,588
	Substitute Teachers, Short-Term	\$31,050
	Preschool Teachers, Except Special Education	\$37,690
	Self-Enrichment Teachers	\$38,020
	Coaches and Scouts	\$38,440
<i>Bachelor's Degree</i>		
*	Kindergarten Teachers, Except Special Education	\$50,750
*	Elementary School Teachers, Except Special Education	\$50,850
*	Secondary School Teachers, Except Special & Career/Technical Education	\$58,060
*	Middle School Teachers, Except Special & Career/Technical Education	\$58,670
<i>Master's Degree</i>		
*	Educational, Guidance, & Career Counselors & Advisors	\$51,100
*	Postsecondary Teachers, All Other	\$62,780
*	Instructional Coordinators	\$63,710
*	Education Administrators, Kindergarten through Secondary	\$96,610
*	Education Administrators, Postsecondary	\$96,710
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- AAFCS (pre-PAC): Education Fundamentals
- CareerSafe: OSHA Safety Certification (10 Hour)
- Master Teacher, Inc: Paraeducator assessment (Parts 1 & 2 - must take both)
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

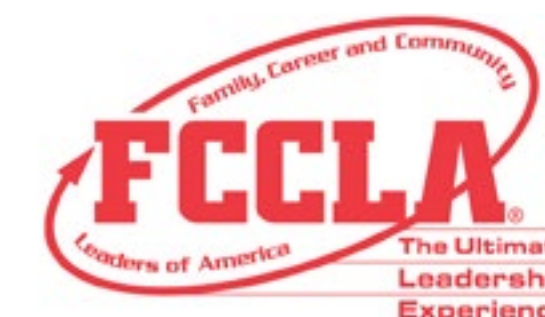
- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Cool Careers - Episode 7: Elementary Teacher](#)
- [Elementary Teacher | HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Education & Training at My Next Move](#)

### STUDENT ORGANIZATION

[Family Career and Community Leaders of America, Kansas \(FCCLA\)](#)







PUBLIC SERVICES INDUSTRY

# Law, Public Safety & Security

Corrections, Security, Law & Law Enforcement Services |  
Emergency & Fire Management Services

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma or Short-Term On-The-Job Training</i>		
	Lifeguards, Ski Patrol, & Other Recreational Protective Service Workers	\$20,170
	School Bus Monitors & Protective Service Workers, All Other Security Guards	\$26,900
	Security Guards	\$30,360
<i>H.S. Diploma &amp; Moderate-Term On-The-Job Training or Nondegree Award</i>		
	Emergency Medical Technicians & Paramedics	\$29,443
	Correctional Officers & Jailers	\$39,850
*	Police & Sheriff's Patrol Officers	\$48,890
<i>Postsecondary Degree or Long-Term On-The-Job Training</i>		
	Firefighters	\$36,830
*	Paralegals & Legal Assistants	\$48,490
*	Lawyers	\$96,620
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Corrections, Security, Law & Law Enforcement Services

## Pathway



This pathway prepares individuals to apply theories and practices of organization management and criminal justice to the administration of public law enforcement agencies and operations. It includes instruction in law enforcement history and theory, operational command leadership, administration of public police organizations, labor relations, incident response strategies, legal and regulatory responsibilities, budgeting, public relations, and organizational leadership.

### INTRODUCTORY LEVEL COURSES

- Introduction to Law, Public Safety, Corrections and Security (LPSCS)

### TECHNICAL LEVEL COURSES

#### Pre-Law Strand

- Practical Law
- Business Law
- Business Communications
- Business Management
- Accounting
- Business Economics

#### Law Enforcement Strand

- Public Safety Physical Education
- EMS First Responder
- Hazardous Materials for the First Responder
- Law Enforcement I
- Forensic Science I

### APPLICATION LEVEL COURSES

#### Pre-Law Strand

- Foundations in Law
- Legal Proceedings
- Work Experience in LPSCS

#### Law Enforcement Strand

- Law Enforcement II
- Certified Protection Officer
- Corrections Officer
- Forensic Science II
- Work Experience in LPSCS

### OCCUPATIONS

- Correctional Officers and Jailers
- Police and Sheriff's Patrol Officers
- Paralegals and Legal Assistants
- Lawyers

Occupations & Degrees		Median Annual Wage
H.S. Diploma or Short-Term On-The-Job Training		
	Correctional Officers and Jailers	\$39,850
H.S. Diploma & Moderate-Term On-The-Job Training or Nondegree Award		
*	Police & Sheriff's Patrol Officers	\$48,890
Postsecondary Degree or Long-Term On-The-Job Training		
*	Paralegals & Legal Assistants	\$48,490
*	Lawyers	\$96,620
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- American Red Cross: Cardio Pulmonary Resuscitation (CPR)/Infant/Toddler CPR
- American Red Cross: First Aid
- NC3: Data Analytics/Harnessing the Power of Data
- American Red Cross/American Heart Association: Basic Life Support

### POSTSECONDARY CREDENTIALS

- International Federation of Protection Officers: Certified Protection Officer
- KS Emergency Medical Services Association: Emergency Medical Responder (EMR) (First Responder)

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Law, Public Safety, Corrections & Security at My Next Move](#)
- [LAPSEN | Home](#)
- [Kansas Mock Trial \(ksbar.org\)](#)

### STUDENT ORGANIZATION

[Skills USA Kansas](#)



# Emergency & Fire Management Services

## Pathway

### INTRODUCTORY LEVEL COURSES

- Introduction to Law, Public Safety, Corrections and Security (LPSCS)
- Introduction to Emergency Medical Services (EMS)

### TECHNICAL LEVEL COURSES

- Medical Terminology
- Public Safety Physical Education
- EMS First Responder
- Hazardous Materials for the First Responder
- Fire Service Special Operations

### APPLICATION LEVEL COURSES

- EMT I
- EMT II
- Fire Science I
- Fire Science II
- Work Experience in LPSCS

### OCCUPATIONS

- Emergency Medical Technicians and Paramedics
- Firefighters
- First Line Supervisors of Firefighting and Prevention Workers

Occupations & Degrees	Median Annual Wage
<i>H.S. Diploma &amp; Moderate-Term On-The-Job Training or Nondegree Award</i>	
Emergency Medical Technicians and Paramedics	\$29,443
<i>Postsecondary Degree or Long-Term On-The-Job Training</i>	
Firefighters	\$36,830
First Line Supervisors of Firefighting and Prevention Workers	\$65,510
Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- American Red Cross: Cardio Pulmonary Resuscitation (CPR)/Infant/Toddler CPR
- American Red Cross: First Aid
- NC3: Data Analytics/Harnessing the Power of Data
- American Red Cross/American Heart Association: Basic Life Support

This pathway prepares students for careers in emergency services and fire science occupations.



### POSTSECONDARY CREDENTIALS

- KS Emergency Medical Services Association: Emergency Medical Responder (EMR) (First Responder)
- KS Emergency Medical Services Association: Emergency Medical Technician (EMT)
- Local Fire Departments: Fire Fighter - Level 1
- DOT - Hazardous Materials Transportation

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Law, Public Safety, Corrections & Security at My Next Move](#)
- [Kansas State Firefighters Association](#)
- [The Kansas Board of Emergency Medical Services \(ksbems.org\)](#)

### STUDENT ORGANIZATION

[Skills USA Kansas](#)





# Media & Technology

**Information Technology  
Arts, AV Technology & Communications**





## MEDIA & TECHNOLOGY INDUSTRY

# Information Technology

Information Support & Services | Network Systems |  
Programming & Software Development | Web & Digital  
Communications

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma or Short-Term On-The-Job Training or Some College &amp; Moderate-Term On-The-Job Training</i>		
	Receptionists & Information Clerks	\$30,490
*	Computer User Support Specialist	\$49,650
<i>Bachelor's Degree</i>		
*	Computer Programmers	\$58,830
*	Network & Computer Systems Administrators	\$79,010
*	Computer Systems Analysts	\$81,390
*	Software Developers & Software Quality Assurance Analysts & Testers	\$91,741
<i>Bachelor's Degree &amp; 5 Years or More Work Experience</i>		
*	Computer Network Architects	\$86,370
*	Computer & Information Systems Managers	\$133,290
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Information Support & Services

## Pathway

### INTRODUCTORY LEVEL COURSES

- Computing Systems
- Computer Applications

### TECHNICAL LEVEL COURSES

- Foundations of Information Technology

### APPLICATION LEVEL COURSES

- CyberSecurity I
- CyberSecurity II
- Information Support and Services I
- Information Support and Services II
- Work-based Learning in Information Support and Services

### OCCUPATIONS

- Computer User Support Specialists
- Software Developers and Software Quality Assurance Analysts and Testers
- Computer Systems Analysts
- Computer and Information Systems Managers
- Network and Computer Systems Administrators
- Computer Occupations, All Other
- Computer Network Architects
- Computer Programmers

Occupations & Degrees	Median Annual Wage
<i>H.S. Diploma or Short-Term On-The-Job Training or Some College &amp; Moderate-Term On-The-Job Training</i>	
* Computer User Support Specialist	\$49,650
<i>Bachelor's Degree</i>	
* Computer Programmers	\$58,830
* Network & Computer Systems Administrators	\$79,010
* Computer Systems Analysts	\$81,390
Computer Occupations, All Other	\$87,400
* Software Developers & Software Quality Assurance Analysts & Testers	\$91,741
<i>Bachelor's Degree &amp; 5 Years or More Work Experience</i>	
* Computer Network Architects	\$86,370
* Computer & Information Systems Managers	\$133,290
* High Demand, High Wage Source: <a href="https://ksde.org/kllic/career-posters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

This pathway prepares individuals to master and use computer software programs and applications for inputting, verifying, organizing, storing, retrieving, transforming (changing, updating, and deleting), and extracting information.



### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: Digital Publishing Suite
- Microsoft (MOS): Microsoft Office Specialist - Associate A
- Microsoft (MOS): Microsoft Office Specialist - Expert A
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDENTIALS

- CISCO: CCNA
- CISCO: CCNP
- CISCO: CCIE
- CISCO: CCDE
- CompTIA: A+
- CompTIA: Network+
- CompTIA: Server+
- CompTIA: Security+

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://ksde.org/excel-in-cte-initiative)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://ksde.org/tiered-technical-courses)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://ksde.org/degree-stats)
- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://ksde.org/k-tip-report)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org/kansas-post-secondary-exploration-guide)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://ksde.org/cte-course-competencies)
- [Cool Careers - Episode 1: Cybersecurity Analyst](https://ksde.org/cool-careers-episode-1)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ksde.org/kansas-labor-information-center)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ksde.org/todays-occupations)
- [Careers in Information Technology at My Next Move](https://ksde.org/careers-in-information-technology)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://skillsusa.org)



- [Future Business Leaders of America](https://fbli.org)



- [Business Professionals of America](https://fbli.org)



- [Technology Student Association](https://tsa-ks.org)





# Network Systems

## Pathway

### INTRODUCTORY LEVEL COURSES

- Computing Systems
- Computer Applications

### TECHNICAL LEVEL COURSES

- Foundations of Information Technology

### APPLICATION LEVEL COURSES

- CyberSecurity I
- CyberSecurity II
- Network Systems I
- Network Systems II
- Work-based Learning in Network Systems

### OCCUPATIONS

- Computer User Support Specialists
- Software Developers and Software Quality Assurance Analysts and Testers
- Computer Systems Analysts
- Computer and Information Systems Managers
- Network and Computer Systems Administrators
- Computer Occupations, All Other
- Computer Network Architects
- Computer Programmers

Occupations & Degrees	Median Annual Wage
<i>H.S. Diploma or Short-Term On-The-Job Training or Some College &amp; Moderate-Term On-The-Job Training</i>	
* Computer User Support Specialist	\$49,650
<i>Bachelor's Degree</i>	
* Computer Programmers	\$58,830
* Network & Computer Systems Administrators	\$79,010
* Computer Systems Analysts	\$81,390
Computer Occupations, All Other	\$87,400
* Software Developers & Software Quality Assurance Analysts & Testers	\$91,741
<i>Bachelor's Degree &amp; 5 Years or More Work Experience</i>	
* Computer Network Architects	\$86,370
* Computer & Information Systems Managers	\$133,290
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

This pathway focuses on the design, implementation, and management of linked systems of computers, peripherals, and associated software to maximize efficiency and productivity, and that prepares individuals to function as network specialists and managers at various levels. It includes instruction in operating systems and applications; systems design and analysis; networking theory and solutions; types of networks; network management and control; network and flow optimization; security; configuring; and troubleshooting.



### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Microsoft (MOS): Microsoft Office Specialist - Associate A
- Microsoft (MOS): Microsoft Office Specialist - Expert A
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDENTIALS

- CISCO: Certified Entry Networking Technician - CCENT
- CISCO: CCNA
- CISCO: CCNP
- CISCO: CCIE
- CISCO: CCDE
- Citrix: Certified Associate - Networking
- CompTIA: A+
- CompTIA: Network+
- CompTIA: Server+
- CompTIA: Security+

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Information Technology at My Next Move](#)

### STUDENT ORGANIZATION

- [Skills USA Kansas](#)



- [Future Business Leaders of America](#)



- [Business Professionals of America](#)



- [Technology Student Association](#)



# Programming & Software Development

## Pathway

This pathway focuses on the general writing and implementation of generic and customized programs to drive operating systems and generally prepares individuals to apply the methods and procedures of software design and programming to software installation and maintenance. It includes instruction in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks. Careers in Programming and Software Development involve the design, development, implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development.



### INTRODUCTORY LEVEL COURSES

- Computing Systems
- Computer Applications
- Introduction to Computer Coding
- Introduction to Physical Computing

### TECHNICAL LEVEL COURSES

- Technical Introduction to Computer Science
- Computer Programming
- Database Applications
- Web Page Design
- Data Systems/Processing
- Computer Programming Other Language
- AP Computer Science Principles

### APPLICATION LEVEL COURSES

- CyberSecurity I
- CyberSecurity II
- AP Computer Science A
- IB Computing
- Particular Topics in Computer Programming
- Work-based Learning in Programming and Software Development

### OCCUPATIONS

- Computer User Support Specialists
- Software Developers and Software Quality Assurance Analysts and Testers
- Computer Systems Analysts
- Computer and Information Systems Managers
- Network and Computer Systems Administrators
- Computer Occupations, All Other
- Computer Network Architects
- Computer Programmers

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma or Short-Term On-The-Job Training or Some College &amp; Moderate-Term On-The-Job Training</i>		
* Computer User Support Specialist		\$49,650
<i>Bachelor's Degree</i>		
* Computer Programmers		\$58,830
* Network & Computer Systems Administrators		\$79,010
* Computer Systems Analysts		\$81,390
Computer Occupations, All Other		\$87,400
* Software Developers & Software Quality Assurance Analysts & Testers		\$91,741
<i>Bachelor's Degree &amp; 5 Years or More Work Experience</i>		
* Computer Network Architects		\$86,370
* Computer & Information Systems Managers		\$133,290
* High Demand, High Wage Source: <a href="https://ksde.org/ksde/industry/career-posters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: Dreamweaver
- Adobe: Illustrator
- Microsoft (MOS): Microsoft Office Specialist - Associate A
- Microsoft (MOS): Microsoft Office Specialist - Expert A
- NC3: Data Analytics/Harnessing the Power of Data
- Apple: App Development with Swift - Level 1

### POSTSECONDARY CREDENTIALS

- CISCO: CCNA
- CISCO: CCNP
- CISCO: CCIE
- CISCO: CCDE
- CompTIA: A+
- CompTIA: Network+
- CompTIA: Server+
- CompTIA: Security+

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://ksde.org/ksde/industry/career-posters)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://ksde.org/ksde/industry/career-posters)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://ksde.org/ksde/industry/career-posters)
- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/ksde/industry/career-posters)
- [K-TIP Report \(kansasregents.org\)](https://ksde.org/ksde/industry/career-posters)
- [Program Alignment \(kansasregents.org\)](https://ksde.org/ksde/industry/career-posters)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org/ksde/industry/career-posters)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://ksde.org/ksde/industry/career-posters)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ksde.org/ksde/industry/career-posters)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ksde.org/ksde/industry/career-posters)
- [Careers in Information Technology at My Next Move](https://ksde.org/ksde/industry/career-posters)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://ksde.org/ksde/industry/career-posters)



- [Future Business Leaders of America](https://ksde.org/ksde/industry/career-posters)



- [Business Professionals of America](https://ksde.org/ksde/industry/career-posters)



- [Technology Student Association](https://ksde.org/ksde/industry/career-posters)





# Web & Digital Communications

## Pathway



This pathway prepares individuals to develop and maintain web servers and the hosted web pages at one or a group of web sites, and to function as designated webmasters. It includes instruction in computer systems and networks, server installation and maintenance, web page design and editing, information resources management, web policy and procedures, internet applications of information systems security, user interfacing and usability research, and relevant management and communications skills.

### INTRODUCTORY LEVEL COURSES

- Computing Systems
- Computer Applications

### TECHNICAL LEVEL COURSES

- Graphic Design
- Computer Programming
- Web Page Design
- Computer Graphics
- Interactive Media
- Animation
- Internet Marketing
- GIS Technology

### APPLICATION LEVEL COURSES

- IB Information Technology in Global Society
- Emerging Technologies - Computing
- Game Design and Authoring for the Web
- Particular Topics in Media Technology
- GIS Spatial Applications
- Web and Digital Communications Project Management

### OCCUPATIONS

- Web Developers
- Web and Digital Interface Designers

Occupations & Degrees	Median Annual Wage
Web Developers	\$67,960
Web and Digital Interface Designers	\$65,800
Source: <a href="https://ks.gov/kLIC/CareerPosters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: Dreamweaver
- Adobe: Frame Maker
- Microsoft (MOS): Microsoft Office Specialist - Associate A
- Microsoft (MOS): Microsoft Office Specialist - Expert A
- NC3: Data Analytics/Harnessing the Power of Data
- Apple: App Development with Swift - Level 1

### POSTSECONDARY CREDENTIALS

- CISCO: CCNA
- CISCO: CCNP
- CISCO: CCIE
- CISCO: CCDE
- CompTIA: A+
- CompTIA: Network+
- CompTIA: Server+
- CompTIA: Security+

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://ksregents.org/excel-in-cte-initiative)
- [Tiered Technical Courses ksde.org](https://ksde.org/tiered-technical-courses) at Kansas Community and Technical Colleges

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://ksdegreestats.org)
- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://ksregents.org/k-tip-report)
- [Program Alignment \(kansasregents.org\)](https://ksregents.org/program-alignment)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org/kansas-post-secondary-exploration-guide)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://ksde.org/cte-course-competencies-and-indicators)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ks.gov/kLIC/Kansas-Career-Posters)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ks.gov/today-s-occupations-high-demand-high-wage-jobs-bachelors)
- [Careers in Information Technology at My Next Move](https://ksde.org/careers-in-information-technology-at-my-next-move)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://skillsusa.org)



- [Future Business Leaders of America](https://fbli.org)



- [Business Professionals of America](https://bpa.org)



- [Technology Student Association](https://tsa.org)





MEDIA & TECHNOLOGY INDUSTRY

# Arts, AV Technology & Communications

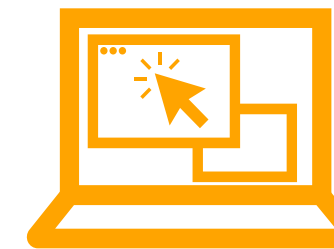
Digital Media | Graphic Design

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>Bachelor's Degree</i>		
*	Graphic Designers	\$49,180
<i>Master's Degree</i>		
*	Librarians and Media Collections Specialists	\$60,400
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Digital Media

## Pathway



This pathway focuses on the development, use, critical evaluation, and regulation of new electronic communication technologies using computer applications; and that prepares individuals to function as developers and managers of digital communications media. It includes instruction in computer and telecommunications technologies and processes; design and development of digital communications; marketing and distribution; digital communications regulation, law, and policy; the study of human interaction with, and use of, digital media; and emerging trends and issues.

### INTRODUCTORY LEVEL COURSES

- Computer Applications
- Business Essentials

### TECHNICAL LEVEL COURSES

- Graphic Design
- Sports and Entertainment Marketing
- 21st Century Journalism
- Graphic Design Fundamentals
- Audio/Visual Production Fund
- Digital Media Technology
- Photo Imaging
- Digital Marketing
- Media and Public Relations

### APPLICATION LEVEL COURSES

- Video Production
- Digital Media Design and Production
- Digital Media Project Management

### OCCUPATIONS

- Librarians and Media Collections Specialists

Occupations & Degrees		Median Annual Wage
*	Librarians and Media Collections Specialists	\$58,440
* High Demand, High Wage Source: <a href="https://ksde.org/ksde/employment/occupations/career-posters/">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: Dreamweaver
- Adobe: Photoshop
- Adobe Premier Pro
- CareerSafe: OSHA Safety Certification (10 Hours)
- Microsoft (MOS) Excel
- Microsoft (MOS) PowerPoint
- Microsoft (MOS) Access
- Microsoft (MOS) Word
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

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- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://ksde.org/ksde/employment/occupations/career-posters/)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://ksde.org/ksde/employment/occupations/career-posters/)
- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/ksde/employment/occupations/career-posters/)
- [K-TIP Report \(kansasregents.org\)](https://ksde.org/ksde/employment/occupations/career-posters/)
- [Program Alignment \(kansasregents.org\)](https://ksde.org/ksde/employment/occupations/career-posters/)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org/ksde/employment/occupations/career-posters/)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://ksde.org/ksde/employment/occupations/career-posters/)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ksde.org/ksde/employment/occupations/career-posters/)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ksde.org/ksde/employment/occupations/career-posters/)
- [Careers in Arts, Audio/Video Technology & Communications at My Next Move](https://ksde.org/ksde/employment/occupations/career-posters/)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://ksde.org/ksde/employment/occupations/career-posters/)



- [Future Business Leaders of America](https://ksde.org/ksde/employment/occupations/career-posters/)



- [Technology Student Association](https://ksde.org/ksde/employment/occupations/career-posters/)

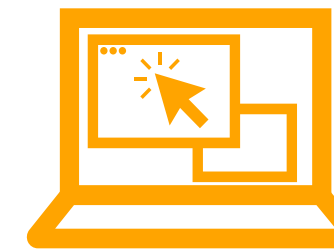




# Graphic Design

## Pathway

This pathway focuses on design and applied arts. The Arts, A/V Technology and Communications Career Cluster is focused on designing, producing, exhibiting, writing, and publishing multimedia content.



### INTRODUCTORY LEVEL COURSES

- Computer Applications
- Introduction to Drawing and Design

### TECHNICAL LEVEL COURSES

- Graphic Design
- Computer Graphics
- Principles of Illustration
- Graphic Design Fundamentals
- Photo Imaging

### APPLICATION LEVEL COURSES

- Media Technology - Workplace Experience
- Graphic Design Project Management

### OCCUPATIONS

- Graphic Designers

Occupations & Degrees		Median Annual Wage
*	Graphic Designers	\$48,610
* High Demand, High Wage Source: <a href="https://ksde.org/ksde/employment/occupations/career-posters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: InDesign
- Adobe: Photoshop
- CareerSafe: OSHA Safety Certification (10 Hours)
- NC3: Data Analytics/Harnessing the Power of Data

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://ksde.org/ksde/employment/occupations/career-posters)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://ksde.org/ksde/employment/occupations/career-posters)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://ksde.org/ksde/employment/occupations/career-posters)
- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/ksde/employment/occupations/career-posters)
- [K-TIP Report \(kansasregents.org\)](https://ksde.org/ksde/employment/occupations/career-posters)
- [Program Alignment \(kansasregents.org\)](https://ksde.org/ksde/employment/occupations/career-posters)
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- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ksde.org/ksde/employment/occupations/career-posters)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ksde.org/ksde/employment/occupations/career-posters)
- [Careers in Arts, Audio/Video Technology & Communications at My Next Move](https://ksde.org/ksde/employment/occupations/career-posters)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://ksde.org/ksde/employment/occupations/career-posters)



- [Future Business Leaders of America](https://ksde.org/ksde/employment/occupations/career-posters)



- [Technology Student Association](https://ksde.org/ksde/employment/occupations/career-posters)







# Health

## Health & Biosciences



HEALTH INDUSTRY

# Health & Biosciences

Biochemistry | Biomedical | Health Science

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Moderate-Term On-The-Job Training</i>		
	Home Health & Personal Care Aides	\$25,000
	Medical Secretaries & Administrative Assistants	\$36,950
	Pharmacy Technicians	\$38,020
<i>Associate Degree</i>		
*	Physical Therapist Assistant	\$60,720
*	Radiologic Technologies & Technicians	\$61,340
*	Respiratory Therapists	\$64,800
*	Dental Hygienists	\$77,610
<i>Bachelor's, Master's, or Doctoral/Professional Degree</i>		
*	Registered Nurses	\$66,640
*	Medical & Health Services Managers	\$96,820
*	Nurse Practitioners	\$108,350
*	Pharmacists	\$129,640
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Biochemistry

Pathway

Biochemistry education prepares students for the introduction to expanding careers that blend chemistry, engineering and biology with classes in environmental sciences, plants, animals, engineering, anatomy, and chemistry. This pathway is centered around technical skills and academic classes that lead to occupations commonly found in laboratories, hospitals, food industry, medical research, forensics, genetics, plant research, pharmaceuticals, microbiology, and environmental studies.



INTRODUCTORY LEVEL COURSES

- Environmental Science
- Chemistry
- Computing Systems
- Computer Applications

TECHNICAL LEVEL COURSES

- Biotechnology in Agriculture
- Anatomy and Physiology
- AP Environmental Science
- Pharmacology
- Applied Biochemistry
- Plant and Soil Science

APPLICATION LEVEL COURSES

- Natural Resources Management
- Bioengineering
- Biotechnical Engineering
- Environmental Resources and Wildlife Science
- Emerging Technologies
- Biochemistry Workplace Experience
- Applications in Biotechnology in Agriculture

OCCUPATIONS

- Surgical Technologists
- Radiologic Technologists and Technicians
- Clinical Laboratory Technologists and Technicians
- Pharmacists
- Medical Scientists

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short to Moderate-Term On-The-Job Training</i>		
* Surgical Technologists		\$48,660
<i>Associate Degree</i>		
* Radiologic Technologists and Technicians		\$61,340
<i>Bachelor's, Master's, or Doctoral/Professional Degree</i>		
* Clinical Laboratory Technologists and Technicians		\$50,580
* Medical Scientists		\$76,400
* Pharmacists		\$129,640
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NC3: Data Analytics/Harnessing the Power of Data
- American Red Cross/American Heart Association: Basic Life Support
- Biotility - Applied Biotech Training: Bio-technician Assistant Credential (BACE)
- Bioscience Core Skill Institute (BCSI): Aseptic Technique (Lab Bench Level), Essential 5, Numeracy, Safety - Hazard Assessment or Small Volume Metrology

POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: Pesticide Applicator (Personal or Commercial)

The above Assessments, Credentials, or Certifications are found:  
[2023-2024 Kansas Pathway Assessments, Credentials, and Certifications \(K-PAC\)](#)  
List Health Science Page 9.

POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\)](#) [kansasregents.org](#)
- [Tiered Technical Courses](#) [ksde.org](#) at Kansas Community and Technical Colleges

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents](#) [ksdegreestats.org](#)
- [Degree Stats Lesson](#) [ksde.org](#)
- [K-TIP Report](#) [kansasregents.org](#)
- [Kansas Post-Secondary Exploration Guide](#) [ksde.org](#)

RESOURCES

- [Careers in Health Science at My Next Move](#)  
*Recommended for Middle School*
- [Health Science Career Cluster](#) [onetonline.org](#)
- [Health Science - Advance CTE](#) [careertech.org](#)
- [Kansas Labor Information Center \(KLIC\) - High Demand Occupations \(ks.gov\)](#)

STUDENT ORGANIZATION

[Kansas Health Occupations Students of America \(HOSA\)](#)





# Biomedical

Pathway

This pathway prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of biomedical and health systems and products such as integrated biomedical systems, instrumentation, medical information systems, artificial organs and prostheses, and health management and care delivery systems.



INTRODUCTORY LEVEL COURSES

- Biology
- Chemistry
- Computing Systems
- Computer Applications

TECHNICAL LEVEL COURSES

- Principles of Biomedical Science
- Medical Interventions
- Human Body Systems
- Anatomy and Physiology
- Robotics
- Pharmacology
- Food Science
- Agricultural Food Science
- AP Biology

APPLICATION LEVEL COURSES

- Biomedical Innovation
- Bioengineering
- Biotechnical Engineering
- Emerging Technologies
- Particular Topics in Engineering
- Biomedical Workplace Experience

OCCUPATIONS

- Radiologic Technologies and Technicians
- Dental Hygienists
- Diagnostic Medical Sonographers
- Medical and Health Services Managers
- Clinical Laboratory Technologists and Technicians
- Pharmacists
- Medical Scientists, Except Epidemiologists

Occupations & Degrees		Median Annual Wage
Associate's Degree		
*	Radiologic Technologies and Technicians	\$61,340
*	Dental Hygienists	\$77,610
*	Diagnostic Medical Sonographers	\$80,690
Bachelor's Degree		
*	Medical and Health Services Managers	\$96,280
*	Clinical Laboratory Technologists and Technicians	\$50,580
Doctoral or Professional Degree		
*	Medical Scientists, Except Epidemiologists	\$76,400
*	Pharmacists	\$129,640
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NC3: Data Analytics/Harnessing the Power of Data
- American Red Cross Cardio Pulmonary Resuscitation (CPR)/Infant/Toddler CPR
- American Red Cross First Aid
- American Red Cross Basic Life Support (BLS)
- Biotility - Applied Biotech Training: Bio-technician Assistant Credential (BACE)
- Bioscience Core Skill Institute (BCSI): Aseptic Technique (Lab Bench Level), Essential 5, Numeracy, Safety - Hazard Assessment or Small Volume Metrology

POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. for Aging & Disability Services: Certified Nurse Aide

POSTSECONDARY CREDITS

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- [Excel in CTE Initiative \(SB155\)](#) [kansasregents.org](#)
- [Tiered Technical Courses](#) [ksde.org](#) at Kansas Community and Technical Colleges

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents](#) [ksdegreestats.org](#)
- [Degree Stats Lesson](#) [ksde.org](#)
- [K-TIP Report](#) [kansasregents.org](#)
- [Program Alignment](#) ([kansasregents.org](#))
- [Kansas Post-Secondary Exploration Guide](#) [ksde.org](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - High Demand Occupations \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)

STUDENT ORGANIZATION

[Kansas Health Occupations Students of America \(HOSA\)](#)



# Health Science

Pathway

This pathway focuses on the health professions and related clinical sciences. It includes planning, managing, and providing therapeutic services, diagnostic services, health informatics, and support services.



INTRODUCTORY LEVEL COURSES

- Introduction to Health Care
- Biology
- Chemistry

TECHNICAL LEVEL COURSES

- Nutrition and Wellness
- Anatomy and Physiology
- EMS First Responder
- Medical Terminology
- Health Information (HIT)
- AP Biology
- Health Care Research and Clinical Skills A
- Health Care Research and Clinical Skills B

General Health Strand

- Fundamentals of Emergency Services
- Medical Interventions

Sports Med/Rehabilitation Strand

- Physical Therapy
- Care of Athletes
- Sports Medicine I

Allied Health Strand

- Medical Imaging
- Pharmacology
- Emergency Medical Tech (EMT)

APPLICATION LEVEL COURSES

- Certified Medication Aide
- Certified Nursing Assistant
- Health Care Work Experience
- General Health Strand
  - Phlebotomy Technician
- Sports Med/Rehabilitation Strand
  - Sports Medicine II
- Allied Health Strand
  - Phlebotomy Technician
  - Home Health Aide
  - Dental Assistant
  - Pharmacy Technician
- Emergency Medical Tech II (EMT II)

OCCUPATIONS

- Licensed Practical and Licensed Vocational Nurses
- Surgical Technologists
- Radiologic Technologists and Technicians
- Physical Therapist Assistants
- Dental Hygienists
- Respiratory Therapists
- Diagnostic Medical Sonographers
- Occupational Therapy Assistants
- Registered Nurses
- Medical and Health Services Managers
- Clinical Laboratory Technologists and Technicians
- Nurse Practitioners
- Occupational Therapists
- Speech-Language Pathologists
- Physician Assistants
- Physicians, All Other; and Ophthalmologists, Except Pediatric
- Physical Therapists
- Pharmacists
- Medical Scientists, Except Epidemiologists

Occupations & Degrees		Median Annual Wage
Postsecondary nondegree award		
*	Licensed Practical and Licensed Vocational Nurses	\$49,250
*	Surgical Technologists	\$48,660
Associate's Degree		
*	Radiologic Technologists and Technicians	\$61,340
*	Physical Therapist Assistants	\$60,720
*	Dental Hygienists	\$77,610
*	Respiratory Therapists	\$64,800
*	Diagnostic Medical Sonographers	\$80,690
*	Occupational Therapy Assistants	\$58,400
Bachelor's Degree		
*	Registered Nurses	\$66,460
*	Medical and Health Services Managers	\$96,280
*	Clinical Laboratory Technologists and Technicians	\$50,580
Master's Degree		
*	Nurse Practitioners	\$108,350
*	Occupational Therapists	\$84,610
*	Speech-Language Pathologists	\$77,830
*	Physician Assistants	\$108,090
Doctoral or Professional Degree		
*	Physicians, All Other; and Ophthalmologists, Except Pediatric	\$184,974
*	Physical Therapists	\$90,850
*	Pharmacists	\$129,640
*	Medical Scientists, Except Epidemiologists	\$76,400
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Health Science

## Pathway (Continued)



### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- American Red Cross Cardio Pulmonary Resuscitation (CPR)/Infant/Toddler CPR
- American Red Cross First Aid
- National Consortium for Health Science Education: National Health Science Assessment
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- American Red Cross/American Heart Association: Basic Life Support

### POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. for Aging & Disability Services: Certified Medical Aide (CMA)
- KS Dept. for Aging & Disability Services: Certified Nurse Aide (CNA)
- KS Dept. for Aging & Disability Services: Home Health Aide
- National Health career Association/National Center for Competency Testing (EKG/ECG): EKG Technician
- KS Emergency Medical Services Association: Emergency Medical Responder (EMR) (First Responder)
- KS Emergency Medical Services Association: Emergency Medical Technician (EMT)
- KS Board of Pharmacy/Pharmacy Technician Certification Board: Pharmacy Technician
- American Society for Clinical Pathology: Phlebotomy Technician
- KS Dental Board: Dental Assistant

### POSTSECONDARY CREDITS

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- [Excel in CTE Initiative \(SB155\)](#) [kansasregents.org](#)
- [Tiered Technical Courses](#) [ksde.org](#) at Kansas Community and Technical Colleges

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents](#) [ksdegreestats.org](#)
- [Degree Stats Lesson](#) [ksde.org](#)
- [K-TIP Report](#) [kansasregents.org](#)
- [Program Alignment](#) ([kansasregents.org](#))
- [Kansas Post-Secondary Exploration Guide](#) [ksde.org](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Registered Nurse | HirePaths - Help Your Kansas Kid Explore Careers Registered Nurse](#)
- [HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Cool Careers - Episode 18: Registered Nurse](#)
- [Medical Imaging Technician | HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Cool Careers - Episode 13: Medical Imaging Technician](#)
- [Kansas Labor Information Center \(KLIC\) - High Demand Occupations \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Health Science at My Next Move](#)

### STUDENT ORGANIZATION

[Kansas Health Occupations Students of America \(HOSA\)w](#)







# Design, Production & Repair

Architecture & Construction  
Engineering  
Manufacturing  
Transportation



DESIGN, PRODUCTION & REPAIR INDUSTRY

# Architecture & Construction

Construction & Design

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>Short to Moderate-Term On-The-Job Training</i>		
	Conveyer Operators & Tenders	\$35,300
	Construction Laborers	\$37,420
*	Painters, Construction & Maintenance	\$44,480
*	Cement Mason & Concrete Finishers	\$47,800
<i>H.S. Diploma &amp; Apprenticeship</i>		
*	Sheet Metal Workers	\$47,870
*	Carpenters	\$48,220
*	Plumbers, Pipefitters, & Steamfitters	\$51,350
*	Electricians	\$58,290
<i>Bachelor's Degree</i>		
*	Cost Estimators	\$69,230
*	Civil Engineers	\$79,870
*	Construction Managers	\$89,860
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Construction & Design

## Pathway



This pathway generally prepares individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties. It may include instruction in masonry, carpentry, electrical and power transmission installation, building/construction finishing, management, inspection and other construction-related applications.

### INTRODUCTORY LEVEL COURSES

- Drafting
- Production Blueprint: Reading
- Introduction to Industrial Technology

### TECHNICAL LEVEL COURSES

#### Design Strand

- Interior Design I
- Interior Design II
- Architecture Design
- Drafting/CAD

#### Construction Strand

- Carpentry
- Woodworking Principles
- Skilled Mechanical Crafts

### APPLICATION LEVEL COURSES

#### Design Strand

- Research and Design for Preconstruction
- Advanced Studies
- Workplace Experience in Architecture and Construction
- Comprehensive Workplace Experience in Architecture and Construction
- Interior Architectural Design

#### Construction Strand

- Sheet Metal Technology
- Research and Design in Building Trades
- Remodel and Building Maintenance
- HVAC Technology
- Plumbing Technology
- Pipefitting Technology
- Electrical and Security Systems
- Carpentry II
- Furniture and Cabinetry Fabrication
- Advanced Materials Technology
- Workplace Experience in Architecture and Construction
- Comprehensive Workplace Experience in Architecture and Construction

### OCCUPATIONS

- Painters, Construction and Maintenance
- Operating Engineers and Other Construction Equipment Operators
- Cement Masons and Concrete Finishers
- Sheet Metal Workers
- Carpenters
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers (HVAC)
- Plumbers, Pipefitters, and Steamfitters
- Electricians
- First-Line Supervisors of Construction Trades and Extraction Workers
- Cost Estimators
- Civil Engineers
- Construction Managers
- Architectural and Engineering Managers

Occupations & Degrees		Median Annual Wage
Short to Moderate-Term On-The-Job Training		
*	Painters, Construction & Maintenance	\$44,480
*	Cement Mason & Concrete Finishers	\$47,800
H.S. Diploma		
*	Operating Engineers and Other Construction Equipment Operators	\$46,730
*	Sheet Metal Workers	\$47,870
*	Carpenters	\$48,220
*	Heating, Air Conditioning, and Refrigeration Mechanics and Installers (HVAC)	\$49,020
*	Plumbers, Pipefitters, & Steamfitters	\$51,350
*	Electricians	\$58,290
*	First-Line Supervisors of Construction Trades and Extraction Workers	\$68,260
Bachelor's Degree		
*	Cost Estimators	\$69,230
*	Civil Engineers	\$79,870
*	Construction Managers	\$89,860
*	Architectural and Engineering Managers	\$142,280
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		





# Construction & Design

*Pathway (Continued)*

## HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- American Design Drafting Association: Certified Drafter
- AHRI: Variety of HVAC Related Areas
- Autodesk: User, Professional, Specialist
- EPA: Section 608 - handling & buying refrigerants)
- CareerSafe: OSHA Safety Certification (10 Hour)
- Solid Works: Software
- NC3: Data Analytics/Harnessing the Power of Data

## POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

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- [Degree Stats Lesson \(ksde.org\)](https://ksde.org)
- [K-TIP Report \(kansasregents.org\)](https://kansasregents.org)
- [Program Alignment \(kansasregents.org\)](https://kansasregents.org)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org)

## POSTSECONDARY CREDENTIALS

- HVAC Excellence: Core & Air Conditioning, Gas, Heat & Electrical
- HVAC Excellence: Core & Light Commercial Air Conditioning, Gas Heat & Electrical
- HVAC Excellence: Core & Light Commercial Refrigeration & Electrical
- ICE: Core & Commercial Refrigeration
- ICE: Core & Light Commercial Air Conditioning & Heating
- ICE: Core & Residential Air Conditioning & Heating
- NATE: Core & Air Conditioning
- NATE: Core & Air Distribution
- NATE: Core & Air to Air Heat Pumps
- NATE: Core & Gas or Oil Furnaces
- NATE: Core & Light Commercial/Commercial Refrigeration
- NCCER Core & Carpentry Level 1
- NCCER: Core & Concrete Finishing
- NCCER: Core & Construction Laborer
- NCCER: Core & Electrical Level 1
- NCCER: Core & HVAC Levels 1 & 2
- NCCER: Core & Masonry Level 1
- NCCER: Core & Plumbing & Pipefitting Level 1
- NCCER Core & Sheet Metal Level 1
- International Code Council: Building Construction
- NCCER: Core & Carpentry Level 2

## RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://ksde.org)
- [Cool Careers - Episode 10: Carpenter](https://coolcareers.org)
- [Cool Careers - Episode 9: Welder](https://coolcareers.org)
- [Cool Careers - Episode 3: Plumber](https://coolcareers.org)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ks.gov)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ks.gov)
- [Careers in Architecture & Construction at My Next Move](https://my.nextmove.org)
- [National Center for Construction Education & Research - NCCER](https://nccer.org)

## STUDENT ORGANIZATION

- [Skills USA Kansas](https://skillsusa.org)



- [Technology Student Association](https://tsa.org)





DESIGN, PRODUCTION & REPAIR INDUSTRY

# Engineering

Engineering & Applied Mathematics |  
Energy | Aviation Production

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Moderate-Term On-The-Job Training</i>		
*	Welders, Cutters, Solderers, & Brazers	\$47,080
*	Inspectors, Testers, Sorters, Samplers, & Weighers	\$47,960
*	Production, Planning, & Expediting Clerks	\$48,480
*	Aircraft Structure, Surfaces, Rigging, & Systems Assemblers	\$61,500
<i>H.S. Diploma &amp; Less Than 5 Years Work Experience or Long-Term On-The-Job Training</i>		
*	Machinists	\$45,400
*	Industrial Machinery Mechanics	\$62,130
*	First-Line Supervisors of Production & Operating Workers	\$64,250
<i>Bachelor's Degree</i>		
*	Mechanical Engineers	\$78,970
*	Industrial Engineers	\$82,710
*	Electrical Engineers	\$95,970
*	Industrial Production Managers	\$107,650
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Engineering & Applied Mathematics

## Pathway



This pathway generally prepares individuals to apply mathematical and scientific principles to solve a wide variety of practical problems in industry, social organization, public works, and commerce. It includes instruction in undifferentiated and individualized programs in engineering.

### INTRODUCTORY LEVEL COURSES

- Chemistry
- Production Blueprint Reading
- Introduction to Engineering

### TECHNICAL LEVEL COURSES

- Engineering Design
- Drafting/CAD
- Robotics
- Foundations of Electronics
- Principles of Applied Engineering

### APPLICATION LEVEL COURSES

- Engineering Design and Development
- Digital Electronics
- Computer Integrated Manufacturing
- Civil Engineering and Architecture
- Aerospace Engineering
- Particular Topics in Engineering
- Emerging Technologies
- Project Management
- Materials Science and Engineering
- Workplace Experience in Engineering
- Workplace Experience

### OCCUPATIONS

- Logisticians
- Engineers, All Other
- Mechanical Engineers
- Civil Engineers
- Industrial Engineers
- Electrical Engineers
- Aerospace Engineers
- Architectural and Engineering Managers

Occupations & Degrees		Median Annual Wage
<i>Bachelor's Degree</i>		
*	Logisticians	\$56,530
*	Engineers, All Other	\$69,570
*	Mechanical Engineers	\$78,970
*	Civil Engineers	\$79,870
*	Industrial Engineers	\$82,710
*	Electrical Engineers	\$95,970
*	Aerospace Engineers	\$103,060
*	Architectural and Engineering Managers	\$142,280

\* High Demand, High Wage  
Source: [Kansas Labor Information Center \(KLIC\) - Career Posters \(ks.gov\)](https://www.kslric.org/career-posters)

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- ISCET: Associate Level CET Exam
- ISCET: Electronics Systems Associate (ESA) Exam

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://www.kansasregents.org/excel-in-cte-initiative)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://www.ksde.org/tiered-technical-courses)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://www.ksdegreestats.org)
- [Degree Stats Lesson \(ksde.org\)](https://www.ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://www.kansasregents.org/k-tip-report)
- [Program Alignment \(kansasregents.org\)](https://www.kansasregents.org/program-alignment)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://www.ksde.org/kansas-post-secondary-exploration-guide)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://www.ksde.org/cte-course-competencies)
- [Cool Careers - Episode 6: Electrical Process Engineer](https://www.ksde.org/cool-careers-episode-6)
- [Electrical Process Engineer | HirePaths - Help Your Kansas Kid Explore Careers](https://www.hirepaths.com/electrical-process-engineer)
- [Cool Careers - Episode 4: Robotics and Automation](https://www.ksde.org/cool-careers-episode-4)
- [Cool Careers - Episode 11: Pilot](https://www.ksde.org/cool-careers-episode-11)
- [Cool Careers - Episode 2: Drone Pilot](https://www.ksde.org/cool-careers-episode-2)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://www.kslric.org/kansas-labor-information-center)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://www.bls.gov/occupations)
- [International Society of Certified Electronics Technicians - Education Through Certification](https://www.ics-eda.org)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://www.skillsusa.org)



- [Technology Student Association](https://www.tsa-usa.org)





# Energy

## Pathway



This pathway prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of energy generation, storage, conversion, and distribution systems. It includes instruction in conventional and alternative/renewable energy systems, electrical power systems, and electrical system design.

### INTRODUCTORY LEVEL COURSES

- Introduction to Energy
- Introduction to Environmental Science

### TECHNICAL LEVEL COURSES

- Energy Industry Fundamentals
- Principles of Applied Engineering
- Fundamentals of Electricity and Electronics
- AP Environment Science
- Energy, Power and Society
- Wind Energy Operations
- Mechanical Power Transmission Systems
- Meteorology

### APPLICATION LEVEL COURSES

- Research and Development for Energy
- Research and Development for Energy - Comprehensive
- Advanced Electricity and Electronics
- Materials Science in Engineering
- Hydraulics and Pneumatics
- HVAC Technology

### OCCUPATIONS

- First-Line Supervisors of Mechanics, Installers, and Repairers
- Electrical Engineers

Occupations & Degrees		Median Annual Wage
<i>H.S Diploma</i>		
*	First-Line Supervisors of Mechanics, Installers, and Repairers	\$69,340
<i>Bachelor's Degree</i>		
*	Electrical Engineers	\$95,970
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- ISCET: Associate Level CET Exam
- ISCET: Electronics Systems Associate (ESA) Exam

### POSTSECONDARY CREDENTIALS

- Center for Energy Workforce Development: Energy Industry Fundamentals

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Cool Careers - Episode 8: Wind Turbine Technician](#)
- [Wind Turbine Technician | HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [International Society of Certified Electronics Technicians \(ISCET\)](#)
- [Center for Energy Workforce Development \(CEWD\)](#)

### STUDENT ORGANIZATION

- [Skills USA Kansas](#)



- [Technology Student Association](#)



# Aviation Production

## Pathway



This pathway generally prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in a wide variety of projects. It includes instruction in various engineering support functions for research, production, and operations, and applications to specific engineering specialties.

### INTRODUCTORY LEVEL COURSES

- Production Blueprint Reading
- Introduction to Industrial Technology

### TECHNICAL LEVEL COURSES

- Hand and Power Tools
- Aviation Fundamentals
- Aviation Systems

#### Design Strand

- Drafting/CAD

#### Production Strand

- Mass Production I

### APPLICATION LEVEL COURSES

#### Design Strand

- Workplace Experience
- Workplace Experience in Engineering
- Part Design
- Assembly Design
- Wireframe and Surfaces
- Aerospace Drawings
- Special Projects and Research in Aviation

#### Production Strand

- Tooling I
- Tooling II
- Aerostructures I
- Aerostructures II
- Composites I
- Composites II
- Workplace Experience in Engineering
- Workplace Experience

### OCCUPATIONS

- Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

Occupations & Degrees		Median Annual Wage
H.S Diploma		
*	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	\$61,500
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NC3: Data Analytics/Harnessing the Power of Data
- IS CET: Associate Level CET Exam
- IS CET: Electronics Systems Associate (ESA) Exam

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Cool Careers - Episode 14: Sheet Metal Mechanic](#)
- [Cool Careers - Episode 4: Robotics and Automation](#)
- [Cool Careers - Episode 11: Pilot](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)

### STUDENT ORGANIZATION

- [Skills USA Kansas](#)



- [Technology Student Association](#)





DESIGN, PRODUCTION & REPAIR INDUSTRY

# Manufacturing

Manufacturing

## Occupation Overview

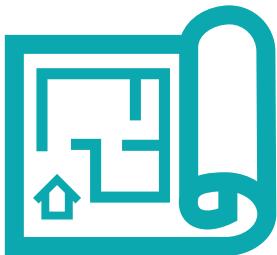
Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Moderate-Term On-The-Job Training</i>		
*	Welders, Cutters, Solderers, & Brazers	\$47,080
*	Inspectors, Testers, Sorters, Samplers, & Weighers	\$47,960
*	Production, Planning, & Expediting Clerks	\$48,480
*	Aircraft Structure, Surfaces, Rigging, & Systems Assemblers	\$61,500
<i>H.S. Diploma &amp; Less Than 5 Years Work Experience or Long-Term On-The-Job Training</i>		
*	Machinists	\$45,400
*	Industrial Machinery Mechanics	\$62,130
*	First-Line Supervisors of Production & Operating Workers	\$64,250
<i>Bachelor's Degree</i>		
*	Mechanical Engineers	\$78,970
*	Industrial Engineers	\$82,710
*	Electrical Engineers	\$95,970
*	Industrial Production Managers	\$107,650
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Manufacturing

Pathway

This pathway generally prepares individuals to apply technical knowledge and skills in creating products using precision crafting and technical illustration. People with careers in Manufacturing work with machines, making or assembling electronic parts, constructing, performing welding jobs, or printing various materials.



INTRODUCTORY LEVEL COURSES

- Introduction to Welding
- Production Blueprint Reading
- Introduction to Industrial Technology

TECHNICAL LEVEL COURSES

- Agricultural Welding
- Robotics
- Welding Processes I
- Hand and Power Tools

Production Strand

- Production Methods I
- Machine Tool Technology
- Computer-Aided Machining (CAM) I
- Drafting/CAD
- Production Print Reading II

Maintenance Strand

- Mechanical Power Transmission Systems
- Foundations of Electronics

APPLICATION LEVEL COURSES

- Welding Processes II
- Agricultural Welding II
- Workplace Experience in Manufacturing
- Workplace Experience in Manufacturing - Comprehensive

Production Strand

- Advanced Drafting/CAD
- Advanced Materials Technology
- Automated Integrated Systems
- Production Methods II
- Computer-Aid Machining (CAM) II

Maintenance Strand

- Sheet Metal Technology
- Remodeling and Building Maintenance
- HVAC Technology
- Plumbing Technology
- Electrical and Security Systems
- Digital Electronics
- Hydraulics and Pneumatics

OCCUPATIONS

- Coating, Painting, and Spraying Machine Setters, Operators, and Tenders
- Computer Numerically Controlled Tool Operators
- Machinists
- Welders, Cutters, Solderers, and Brazers
- Sheet Metal Workers
- Inspectors, Testers, Sorters, Samplers, and Weighers
- Production, Planning, and Expediting Clerks
- Industrial Machinery Mechanics
- Electrical and Electronic Engineering Technologists and Technicians
- First-Line Supervisors of Production and Operating Workers
- Industrial Production Managers

Occupations & Degrees		Median Annual Wage
H.S. Diploma		
*	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	\$42,680
*	Computer Numerically Controlled Tool Operators	\$44,500
*	Machinists	\$45,400
*	Welders, Cutters, Solderers, and Brazers	\$47,080
*	Sheet Metal Workers	\$47,870
*	Inspectors, Testers, Sorters, Samplers, and Weighers	\$47,960
*	Production, Planning, and Expediting Clerks	\$48,480
*	Industrial Machinery Mechanics	\$62,130
*	First-Line Supervisors of Production and Operating Workers	\$64,250
Associate's Degree		
*	Electrical and Electronic Engineering Technologists and Technicians	\$63,390
Bachelor's Degree		
*	Industrial Production Managers	\$107,650
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Manufacturing

## Pathway (Continued)

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- American Design Drafting Association: Certified Drafter
- AHRI: Variety of HVAC Related Areas
- ASME - Section 9 Standards (6G level)
- EPA: Section 608 - handling & buying refrigerants)
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- ISCET: Associate Level CET Exam
- ISCET: Electronics Systems Associate (ESA) Exam

### POSTSECONDARY CREDENTIALS

- American Welding Society: Certification - Level 1
- American Welding Society: SENSE Certification - Level 1
- HVAC Excellence: Core & Air Conditioning, Gas Heat & Electrical
- HVAC Excellence: Core & Light Commercial Air Conditioning, Gas Heat & Electrical
- HVAC Excellence: Core & Light Commercial Refrigeration & Electrical
- ICE: Core & Commercial Refrigeration
- ICE: Core & Light Commercial Air Conditioning & Heating
- ICE: Core & Residential Air Conditioning & Heating
- MSSC: Certified Production Technician (CPT)
- NATE: Core & Air Conditioning
- NATE: Core & Air Distribution
- NATE: Core & Air to Air Heat Pumps
- NATE: Core & Gas or Oil Furnaces
- NATE: Core & Light Commercial Refrigeration
- NCCER: Core & Electrical Level 1
- NCCER: Core & HVAC Levels 1 & 2
- NCCER: Core & Industrial Maintenance level 1
- NCCER: Core & Plumbing & Pipefitting Level 1
- NCCER Core & Sheet Metal Level 1
- NIMS: Machining Level 1
- NIMS: Metal Forming I
- SMRP: Certified Maintenance & Reliability Technician

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) ksde.org](https://ksde.org/excel)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://ksde.org/tiered)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://ksde.org/degreestats)
- [Degree Stats Lesson \(ksde.org\)](https://ksde.org/degreestats/lesson)
- [K-TIP Report \(ksde.org\)](https://ksde.org/k-tip)
- [Program Alignment \(ksde.org\)](https://ksde.org/programalignment)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://ksde.org/postsecondary)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://ksde.org/cte)
- [Cool Careers - Episode 14: Sheet Metal Mechanic](https://ksde.org/coolcareers)
- [Sheet Metal Mechanic | HirePaths - Help Your Kansas Kid Explore Careers](https://ksde.org/sheetmetal)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://ksde.org/kllic)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://ksde.org/today)
- [Careers in Manufacturing at My Next Move](https://ksde.org/careers)
- [International Society of Certified Electronics Technicians \(ISCET\)](https://ksde.org/iscet)
- [National Center for Construction Education & Research - NCCER](https://ksde.org/nccer)
- [AWS SENSE Program \(senseonline.org\)](https://senseonline.org)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://skillsusa.org)



- [Technology Student Association](https://tstudent.org)





DESIGN, PRODUCTION & REPAIR INDUSTRY

# Transportation

Mobile Equipment Maintenance | Aviation Maintenance

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>Short-Term On-The-Job Training</i>		
	Cleaners of Vehicles & Equipment	\$30,950
	Tire Repairers & Changers	\$31,420
<i>H.S. Diploma &amp; Long-Term On-The-Job Training</i>		
*	Automotive Body & Related Repairers	\$46,460
*	Bus & Truck Mechanics & Diesel Engine Specialists	\$49,630
*	Mobile Heavy Equipment Mechanics, Except Engines	\$57,530
<i>H.S. Diploma &amp; Work Experience or Nondegree Award</i>		
*	Automotive Services Technicians & Mechanics	\$42,060
*	Aircraft Mechanics & Service Technicians	\$65,870
*	First-Line Supervisors of Mechanics, Installers, & Repairers	\$69,340
*	Transportation, Storage, & Distribution Managers	\$96,610
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Mobile Equipment Maintenance

## Pathway



This pathway generally prepares individuals to apply technical knowledge and skills in mechanic and repair technologies. Careers in the Mobile Equipment Pathway include the maintenance, repair, and servicing of vehicles and transportation facilities, as well as the refueling of mobile equipment. All transportation relies on equipment which must function as designed, whenever needed. The people in this pathway keep the equipment and machinery running while looking for more efficient, safe, and cost-effective ways to do so.

INTRODUCTORY LEVEL COURSES

- Business Essentials
- Introduction to Industrial Technology
- Automotive Information
- Introduction to Transportation

TECHNICAL LEVEL COURSES

- Technology Strand*
- Entrepreneurship
  - Alternative Power
  - Small Engine and Powertrains I
  - Engine Mechanical Repair
  - Diesel Engine Technology
- Technology Strand I*
- General Service I
- Technology Strand II*
- Electronic and Electrical Systems I
  - Brakes I
  - Drive Train Technology
  - Engine Performance I
  - Steering and Suspension I
  - Mobile HVAC
- Collision Strand*
- Entrepreneurship
  - Auto Collision I
  - Auto Refinishing I

APPLICATION LEVEL COURSES

- Technology Strand*
- Small Engines and Powertrains II
  - Workplace Experience in Transportation
  - Workplace Experience in Transportation - Comprehensive
- Technology Strand I*
- General Service II
  - General Service III
- Technology Strand II*
- Electronics and Electrical Systems II
  - Brakes II
  - Engine Performance II
  - Steering and Suspension II
- Collision Strand*
- Workplace Experience in Transportation
  - Workplace Experience in Transportation - Comprehensive
  - Auto Collision II
  - Auto Refinishing II

OCCUPATIONS

- Automotive Service Technician
- Automotive Body and Related Repairers
- Bus and Truck Mechanics and Diesel Engine Specialists
- Mobile Heavy Equipment Mechanics, Except Engines
- Aircraft Mechanics and Service Technicians
- First-Line Supervisors of Mechanics, Installers and Repairers
- Transportation, Storage, and Distribution Managers

Occupations & Degrees		Median Annual Wage
<i>H.S Diploma or Postsecondary Nondegree Award</i>		
*	Automotive Service Technician	\$42,060
*	Automotive Body and Related Repairers	\$46,460
*	Bus and Truck Mechanics and Diesel Engine Specialists	\$49,630
*	Mobile Heavy Equipment Mechanics, Except Engines	\$57,530
*	Aircraft Mechanics and Service Technicians	\$65,870
*	First-Line Supervisors of Mechanics, Installers and Repairers	\$69,340
*	Transportation, Storage, and Distribution Managers	\$96,610
*High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Mobile Equipment Maintenance

*Pathway (Continued)*

## HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- EPA: Section 609 - servicing motor vehicle air conditioners & for buying refrigerant
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- ASE - Student Certification (2 areas)

## POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

## POSTSECONDARY CREDENTIALS

- ASE: Automobile Service Technician
- ASE: Maintenance & Light Repair
- ASE: Master Automobile Service Technician
- ASE: Mechanical & Electrical
- ASE: Non-Structural Analysis & Damage Repair
- ASE: Painting & Refinishing
- ASE: Structural Analysis & Damage Repair
- ASE: Student Certification (4 areas)
- ASE: Student Certification - Diesel (4 areas)
- I-CAR: Refinish Technician ProLevel 1

## POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Program Alignment \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

## RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Cool Careers - Episode 5: Heavy Equipment Technician](#)
- [Cool Careers - Episode 12: Distribution Support Specialist](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Transportation, Distribution & Logistics at My Next Move](#)
- [Automotive Service \(ASE\) Entry Level Student Certification](#)
- [Automotive Service Excellence \(ASE\)](#)
- [Inter-Industry Conference on Auto Collision Repair \(I-CAR\)](#)

## STUDENT ORGANIZATION

- [Skills USA Kansas](#)



- [Technology Student Association](#)



# Aviation Maintenance

## Pathway



This pathway generally prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of aircraft powerplant and related systems. It includes instruction in engine inspection and maintenance, lubrication and cooling, electrical and ignition systems, carburetion, fuels and fuel systems, propeller and fan assemblies.

### INTRODUCTORY LEVEL COURSES

- Production Blueprint Reading
- Introduction to Industrial Technology

### TECHNICAL LEVEL COURSES

- Hand and Power Tools
- Aviation Fundamentals
- Aviation Systems

#### Avionics Strand

- Foundations of Electronics

#### Airframe Strand

- Production Method I
- Mechanical Power Transmission Systems

### APPLICATION LEVEL COURSES

- Unmanned Aircraft Systems (UAS)
- Work Experience in Aviation
- Work Experience in Aviation - Comprehensive

#### Avionics Strand

- Digital Electronics
- AC Electronics
- DC Electronics

#### Airframe Strand

- Hydraulics and Pneumatics
- Flight Training

### OCCUPATIONS

- Aircraft Mechanics and Service Technicians

Occupations & Degrees		Median Annual Wage
Postsecondary Nondegree Award		
*	Aircraft Mechanics and Service Technicians	\$65,870
* High Demand, High Wage Source: <a href="https://www.kslc.org/career-posters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NC3: Data Analytics/Harnessing the Power of Data
- IS CET: Associate Level CET Exam
- IS CET: Electronics Systems Associate (ESA) Exam

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://www.kansasregents.org/excel-in-cte-initiative)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://www.ksde.org/tiered-technical-courses)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://www.ksdegreestats.org)
- [Degree Stats Lesson \(ksde.org\)](https://www.ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://www.kansasregents.org/k-tip-report)
- [Program Alignment \(kansasregents.org\)](https://www.kansasregents.org/program-alignment)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://www.ksde.org/kansas-post-secondary-exploration-guide)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://www.ksde.org/cte-course-competencies-and-indicators)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://www.ksde.org/kansas-labor-information-center-klc-kansas-career-posters)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://www.ksde.org/todays-occupations-high-demand-high-wage-jobs-bachelors)
- [Search results for "aviation maintenance" at My Next Move](https://www.ksde.org/search-results-for-aviation-maintenance-at-my-next-move)
- [International Society of Certified Electronics Technicians \(ISCET\)](https://www.ksde.org/international-society-of-certified-electronics-technicians-is cet)

### STUDENT ORGANIZATION

- [Skills USA Kansas](https://www.skillsusa.org)



- [Technology Student Association](https://www.ksde.org/technology-student-association)







# Agriculture

**Agriculture, Food & Natural Resources**



AGRICULTURE INDUSTRY

# Agriculture, Food & Natural Resources

Animal Science | Biotechnology in Agriculture | Comprehensive  
Agricultural Science | Agribusiness Systems | Food Products &  
Processing Systems | Natural Resources & Environmental Services |  
Plant Systems | Power, Structural & Technical Systems

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>Short-Term On-The-Job Training</i>		
	Farmworkers & Laborers, Crop Nursery, & Greenhouse	\$29,990
	Landscaping & Groundskeeping Workers	\$33,160
	Farmworkers, Farm, Ranch, & Aquacultural Animals	\$34,400
	Meat, Poultry, & Fish Cutters & Trimmers	\$39,300
<i>Moderate to Long-Term On-The-Job Training</i>		
	Butchers & Meat Cutters	\$33,290
	Agricultural Equipment Operators	\$37,480
	Water & Wasteland Treatment Plant & System Operators	\$39,940
<i>H.S. Diploma &amp; Work Experience</i>		
*	Farmers, Ranchers, & Other Agricultural Managers	\$72,990
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

# Animal Science

Pathway



This pathway focuses on the scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. It includes instruction in the animal sciences, animal husbandry and production, and agricultural and food products processing. An Animal Scientist conducts research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.

INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

TECHNICAL LEVEL COURSES

- Agriscience
- Animal Science

APPLICATION LEVEL COURSES

- Advanced Animal Science
- Equine Science
- Small Animal Care
- Animal Health/Vet Tech
- Research in Agriculture
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Advanced Internship
- Agricultural Business
- Internship

OCCUPATIONS

- Agricultural Educators
  - Agricultural Engineer
  - Analytical Chemist
  - Animal Biotechnologist: Reproductive or Nutritional Specialist
  - Animal Breeder
  - Animal Caretaker
  - Animal Geneticist
  - Dairy Farm Manager
- Extension Agent
  - Feed Mill Operator
  - Livestock producer
  - Livestock Inspectors
  - Nutrient Management
  - Ranch Manager
  - Small Animal Veterinarian
  - USDA Inspector
  - Veterinary Assistants
  - Veterinary Technician

[AgExplorer | National FFA Organization](#)  
[CCFrame-AgricultureFoodandNatResources.pdf \(careertech.org\)](#)

Occupations & Degrees	Median Annual Wage
<i>High School Diploma and Short-Term On-the-Job Training</i>	
Animal Caretakers	\$26,970
Farmworkers, Farm, Ranch, and Aquacultural Animals	\$32,390
Veterinary Assistants and Laboratory Animal Caretakers	\$32,760
<i>Associates Degree</i>	
Veterinary Technologists and Technicians	\$37,350
<i>High School Diploma plus Five Years Work Experience</i>	
Farmers, Ranchers, & Other Agricultural Managers	\$76,570
Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- cPass: Animal Science Assessment
- Youth for the Quality Care of Animals: YQCA
- NC3: Data Analytics/Harnessing the Power of Data
- Dog Handler
- cPass: Comprehensive Agriculture Assessment

POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: KS Agriculture Skills & Competencies
- KS Dept. of Agriculture: Animal Science Skills and Competencies

POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Dairy Farmer | HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

STUDENT ORGANIZATION

- [Kansas FFA](#)





# Biotechnology in Agriculture

Pathway

This pathway generally focuses on the application of the biological sciences, biochemistry, and genetics to the preparation of new and enhanced agricultural, environmental, clinical, and industrial products.



## INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

## TECHNICAL LEVEL COURSES

- Agriscience
- Agricultural Food Science
- Animal Science
- Biotechnology in Agriculture
- Horticulture
- Plant and Soil Science

## APPLICATION LEVEL COURSES

- Agricultural Business
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Applications in Biotechnology
- Research in Agriculture
- Internship
- Advanced Internship

## OCCUPATIONS

- Cell culture technician
- Research specialist
- Plant biologist
- Biochemist
- Renewable energy researcher
- Biofuels technician

### Occupations & Degrees

All levels of education are needed for these careers, but the more science-based jobs will require a minimum of a bachelor's degree in a related field. Some will require more advanced degrees and research experience. Colleges are beginning to add biotechnology-specific degree programs. On-the-job training and basic certifications are also required for these positions.

Source: [Career Overview: Biotechnology Systems Jobs | National FFA Organization](#)

## HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- cPass: Animal Science Assessment
- cPass: Comprehensive Agriculture Assessment
- NC3: Data Analytics/Harnessing the Power of Data

## POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: KS Agriculture Skills & Competencies

## RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

## STUDENT ORGANIZATION

- [Kansas FFA](#)



# Comprehensive Agricultural Science

## Pathway

This pathway encompasses the study of the broad-based knowledge and skills needed in all AFNR (Agriculture, Food, and Natural Resource) professions. Students completing a program of study in this pathway will demonstrate fundamental knowledge of Agricultural systems and the skills necessary for the application of technologies; safety, health and environmental practices; stewardship of natural resources; and exploration of career opportunities in Agriculture, Food, and Natural Resource settings.



### INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

### TECHNICAL LEVEL COURSES

- Agriscience
- Horticulture
- Plant and Soil Science
- Animal Science
- Plant and Animal Science
- Agricultural Food Science
- Biotechnology in Agriculture
- Natural Resource Management

### APPLICATION LEVEL COURSES

- Internship
- Advanced Internship
- Agricultural Business
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Research in Agriculture
- Advanced Plant and Science Science

### OCCUPATIONS

- Agricultural Economist
- Agriculture Entrepreneurship
- Agriculture Sales Manager
- Farm Manager
- Ranch Management

Occupations & Degrees	Median Annual Wage
<i>High School Diploma plus Five Years Work Experience</i>	
* Farmers, Ranchers, and Other Agricultural Managers	\$76,570
* High Demand, High Wage Source: <a href="https://www.ks.gov/kLIC/CareerPosters">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NSTMOP: Tractor Safety
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- cPass: Comprehensive Agriculture Assessment
- KS Restaurant & Hospitality: ServSafe – Food Handlers
- KS Livestock Association: Beef Quality Assurance

### POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Revenue: Commercial Driver's License
- KS Dept. of Agriculture: KS Agriculture Skills & Competencies
- KS Dept. of Agriculture: Pesticide Applicator (Personal or Commercial)

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](https://www.kansasregents.org/excel-in-cte-initiative)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](https://www.ksde.org/tiered-technical-courses)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](https://www.ksdegreestats.org)
- [Degree Stats Lesson \(ksde.org\)](https://www.ksde.org/degree-stats-lesson)
- [K-TIP Report \(kansasregents.org\)](https://www.kansasregents.org/k-tip-report)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](https://www.ksde.org/kansas-post-secondary-exploration-guide)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](https://www.ksde.org/cte-course-competencies-and-indicators)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](https://www.ks.gov/kLIC/Kansas-Career-Posters)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](https://www.ks.gov/today-s-occupations-high-demand-high-wage-jobs-bachelors)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](https://www.ksde.org/careers-in-agriculture-food-natural-resources-at-my-next-move)

### STUDENT ORGANIZATION

- [Kansas FFA](https://www.ksffa.org)





# Agribusiness Systems

## Pathway

This pathway generally encompasses the study of agribusinesses and their management. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the planning, development, application and management of agribusiness systems in Agriculture, Food, and Natural Resource settings.



### INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

### TECHNICAL LEVEL COURSES

- Agriscience
- Agribusiness

### APPLICATION LEVEL COURSES

- Internship
- Advanced Internship
- Applications in Agribusiness
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Research in Agriculture

### OCCUPATIONS

- Farmers, Ranchers, and Other Agricultural Managers
- Buyers and Purchasing Agents, Farm Products

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma</i>		
	Farmers, Ranchers, and Other Agricultural Managers	\$72,990
<i>Bachelor's Degree</i>		
	Buyers and Purchasing Agents, Farm Products	\$62,840
Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- cPass: Comprehensive Agriculture Assessment

### POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: KS Agriculture Skills & Competencies

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

### STUDENT ORGANIZATION

- [Kansas FFA](#)





# Food Products & Processing Systems

Pathway



This pathway generally encompasses the study of food nutrition, biology, microbiology, and chemistry food systems; and processing for storage, distribution and consumption. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of food products and processing systems in Agriculture, Food, and Natural Resource settings.

INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

TECHNICAL LEVEL COURSES

- Agriscience
- Horticulture
- Plant and Soil Science
- Animal Science
- Agricultural Food Science
- Food Science

APPLICATION LEVEL COURSES

- Internship
- Advanced Internship
- Agricultural Business
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Research in Agriculture
- Advanced Food Science

OCCUPATIONS

- Food Scientists
- Food Safety Specialist
- Food Production Supervisor
- Meat, Poultry, and Fish Cutters and Trimmers
- Product Development Food Scientist

Occupations & Degrees	Median Annual Wage
<i>H.S. Diploma and Short-term to Long-Term on-the-job Training</i>	
Butchers and Meat Cutters	\$36,640
Meat, Poultry, and Fish Cutters and Trimmers	\$43,790
* Meat Packers	\$45,450
<i>Bachelor's Degree</i>	
Buyers and Purchasing Agents, Farm Products	\$62,840
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- KS Restaurant & Hospitality: ServSafe – Food Handlers
- cPass: Comprehensive Agriculture Assessment

POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: KS Agriculture Skills & Competencies

POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

STUDENT ORGANIZATION

- [Kansas FFA](#)



# Natural Resources & Environmental Services

Pathway

This pathway encompasses the study of the management and improvement of soil, water, wildlife, forests and air as natural resources. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of natural resource systems in Agriculture, Food, and Natural Resource settings.



INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

TECHNICAL LEVEL COURSES

- Agriscience
- Natural Resources Management

APPLICATION LEVEL COURSES

- Internship
- Advanced Internship
- Agricultural Business
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Research in Agriculture
- Environmental Resources and Wildlife Science

OCCUPATIONS

- Conservation Scientist
- Environmental Engineer
- Fish and Game Officer
- Fish Hatchery Manager
- Forester
- Geologist
- Water and Wastewater Treatment Plant and System Operators
- Wildlife Biologist
- Wildlife Manager

Occupations & Degrees		Median Annual Wage
H.S. Diploma and Long-Term On-the-Job Training		
*	Water and Wastewater Treatment Plant and System Operators	\$45,960
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- cPass: Comprehensive Agriculture Assessment

POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: KS Agriculture Skills & Competencies
- KS Dept. of Agriculture: Pesticide Applicator (Personal or Commercial)

POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

STUDENT ORGANIZATION

- [Kansas FFA](#)





# Plant Systems

## Pathway



This pathway encompasses the study of plant life cycles, classifications, functions, structures, reproduction, media and nutrients and cultural practices through the study of crops, turf grass, trees, shrubs and/or ornamental plants. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of plant systems in Agriculture, Food, and Natural Resource settings.

### INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

### TECHNICAL LEVEL COURSES

- Agriscience
- Horticulture
- Plant and Soil Science

### APPLICATION LEVEL COURSES

- Internship
- Advanced Internship
- Floriculture and Greenhouse Management
- Applications in Horticulture
- Crop and Range Management
- Agricultural Business
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Research in Agriculture

### OCCUPATIONS

- |                     |                              |
|---------------------|------------------------------|
| • Agronomist        | • Grain Elevator Manager     |
| • Crop Advisor      | • Horticulturist             |
| • Custom Applicator | • Landscape Designer         |
| • Farmer            | • Landscape Technician       |
| • Feed Mill Manager | • Plant Biologist            |
| • Food Scientist    | • Soil and Water Specialists |

Occupations & Degrees	Median Annual Wage
<i>H.S. Diploma plus short-term to long-term on-the-job work experience</i>	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$36,640
Landscaping and Groundskeeping Workers	\$37,510
* First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$57,250
* Farmers, Ranchers, and Other Agricultural Managers	\$72,990
<i>Bachelor's Degree</i>	
* Biological Technicians	\$47,140
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a> <a href="#">Kansas Labor Information Center (KLIC) - High Demand Occupations (ks.gov)</a>	

### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NSTMOP: Tractor Safety
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- cPass: Plant Systems Assessment
- cPass: Comprehensive Agriculture Assessment

### POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- KS Dept. of Agriculture: KS Agriculture Skills & Competencies
- KS Dept. of Agriculture: Pesticide Applicator (Personal or Commercial)

### POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

### POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

### RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Agronomist | HirePaths - Help Your Kansas Kid Explore Careers](#)
- [Cool Careers - Episode 15: Agronomist](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

### STUDENT ORGANIZATION

- [Kansas FFA](#)





# Power, Structural & Technical Systems

Pathway



This pathway encompasses the study of agricultural equipment, power systems, precision technology, welding and project planning for agricultural structures. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of power, structural and technical systems in Agriculture, Food, and Natural Resource settings.

INTRODUCTORY LEVEL COURSES

- Introduction to Agriculture
- Exploratory Agriculture

TECHNICAL LEVEL COURSES

- Agriscience
- Agricultural Mechanics
- Agricultural Welding I
- Small Engines

APPLICATION LEVEL COURSES

- Internship
- Advanced Internship
- Agricultural Business
- Agricultural Entrepreneurship
- Agricultural Leadership and Communications
- Research in Agriculture
- Advanced Agricultural Mechanics
- Agricultural Structures
- Agricultural Welding II
- Agricultural Fabrication
- Advanced Agricultural Power

OCCUPATIONS

- Agricultural engineer
- Agricultural equipment operator
- Diesel technician
- Electronics system technician
- GIS specialist
- Land surveyor
- Farm equipment technician
- Contractor/builder
- Welder

[Career Overview: Power, Structural and Technical Systems | National FFA Organization](#)  
[CCFrame-AgricultureFoodandNatResources.pdf \(careertech.org\)](#)

Occupations & Degrees		Median Annual Wage
H.S. Diploma plus moderate on-the-job training		
	Agricultural Equipment Operators	\$43,160
*	Welders, Cutters, Solderers, and Brazers	\$48,150
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- NSTMOP: Tractor Safety
- CareerSafe: OSHA Safety Certification (10 Hour)
- NC3: Data Analytics/Harnessing the Power of Data
- cPass: Comprehensive Agriculture Assessment

POSTSECONDARY ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- American Welding Society: SENSE Certification - Level 1
- KS Dept. of Revenue: Commercial Driver’s License
- KS Dept. of Agriculture: KS Agriculture Skills & Competencies

POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today’s Occupations: High Demand, High Wage Jobs < Bachelor’s \(ks.gov\)](#)
- [Cool Careers - Episode 9: Welder](#)
- [Careers in Agriculture, Food & Natural Resources at My Next Move](#)

STUDENT ORGANIZATION

- [Kansas FFA](#)





# Business

**Marketing**  
**Finance**

**Business Management & Administration**



BUSINESS INDUSTRY

# Marketing

Marketing

## Occupation Overview

Occupations & Degrees		Median Annual Wage
Short-Term On-The-Job Training		
	Cashiers	\$24,600
	Retail Salesperson	\$28,500
	Counter and Rental Clerks	\$35,630
H.S. Diploma & Moderate-Term On-The-Job Training		
*	Real Estate Agents	\$37,100
*	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, & Travel	\$61,720
*	Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	\$68,840
H.S. Diploma & Work Experience or Nondegree Award		
*	Public Relations Specialists	\$57,510
*	Market Research Analysts & Marketing Specialists	\$58,640
*	Marketing Managers	\$127,630
*	Sales Managers	\$133,360
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Marketing

Pathway

This pathway generally prepares individuals to provide analytical descriptions of consumer behavior patterns and market environments to marketing managers and other business decision-makers. It includes instruction in survey research methods, research design, new product test marketing, exploratory marketing, consumer needs and preferences analysis, geographic analysis, and applications to specific products and markets. Employees in marketing research are concerned with understanding people and organizations. They collect and analyze many different types of information to design new products, to predict future sales and to position their own company’s strategies against those of its competitors.



INTRODUCTORY LEVEL COURSES

- Business Essentials

TECHNICAL LEVEL COURSES

- Business Communications
- Principles of Marketing

Optional Supportive Courses

- Graphic Design
- Web Page Design
- Computer Graphics
- Business Management
- Entrepreneurship
- IB Business and Management
- Accounting
- Business Economics
- Sports/Entertainment Marketing
- Principles of Advertising
- Advanced Spreadsheet Applications
- Digital Marketing

APPLICATION LEVEL COURSES

- Marketing Applications
- Optional Supportive Courses
- Marketing Management
  - Integrated Marketing Applications
  - Marketing Research
  - Marketing - Workplace Experience
  - Advanced Marketing Workplace Experience
  - Marketing Communications

OCCUPATIONS

- First-Line Supervisors of Retail Sales Workers
  - Property, Real Estate, and Community Association Managers
  - Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel
  - Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
- Public Relations Specialists
  - Market Research Analysts and Marketing Specialists
  - Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
  - Marketing Managers
  - Sales Managers

Occupations & Degrees		Median Annual Wage
H.S. Diploma		
*	First-Line Supervisors of Retail Sales Workers	\$44,570
*	Property, Real Estate, and Community Association Managers	\$46,410
*	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	\$61,720
*	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$68,840
Bachelor's Degree		
*	Public Relations Specialists	\$57,510
*	Market Research Analysts and Marketing Specialists	\$58,640
*	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$101,600
*	Marketing Managers	\$127,630
*	Sales Managers	\$133,360
* High Demand, High Wage		
Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: Campaign Business Practitioner
- Adobe: Dreamweaver
- Adobe: Illustrator
- Adobe: Media Optimizer
- CareerSafe: OSHA Safety Certification (10 Hour)
- Intuit: QuickBooks Certified User
- MBA Research (ASK): Fundamental Marketing Concepts
- Microsoft (MOS) Excel
- Microsoft (MOS) PowerPoint
- Microsoft (MOS): Access
- Microsoft (MOS) Word
- MBA Research (ASK): Marketing program of study exam
- NC3: Data Analytics/Harnessing the Power of Data
- Google: Analytics
- Facebook: Blueprint

POSTSECONDARY CREDITS

Under the Excel in Career Technical Education Initiative, Kansas high school students qualify for state-funded college tuition in approved technical courses offered by Kansas technical and community colleges.

- [Excel in CTE Initiative \(SB155\) kansasregents.org](#)
- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
- [Today's Occupations: High Demand, High Wage Jobs < Bachelor's \(ks.gov\)](#)
- [Careers in Information Technology at My Next Move](#)

STUDENT ORGANIZATION

- [Future Business Leaders of America](#)



- [Kansas DECA](#)



- [Business Professionals of America](#)





BUSINESS INDUSTRY

# Finance

Business Finance

## Occupation Overview

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma &amp; Short-Term On-The-Job Training</i>		
	Tellers	\$31,760
*	Loan Interviewers & Clerks	\$45,390
<i>H.S. Diploma &amp; Moderate to Long-Term On-The-Job Training</i>		
*	Bill & Account Collectors	\$38,950
*	Insurance Claims & Policy Processing Clerks	\$46,090
*	Payroll & Timekeeping Clerks	\$47,530
*	Insurance Sales Agents	\$59,000
*	Claims Adjusters, Examiners, & Investigators	\$72,180
<i>Bachelor's Degree</i>		
*	Accountants & Auditors	\$70,170
*	Loan Officers	\$77,180
*	Personal Finance Advisors	\$79,070
*	Financial Managers	\$130,800
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		



# Business Finance

Pathway



This pathway generally prepares individuals to plan, manage, and analyze the financial and monetary aspects and performance of business enterprises, banking institutions, or other organizations. It includes instruction in principles of accounting, financial instruments, capital planning, funds acquisition, asset and debt management, budgeting, financial analysis, and investments and portfolio management. The business finance function in a company is to manage policy and strategy for (and the implementation of) capital structure, budgeting, acquisition and investment, financial modeling and planning, funding, dividends, and taxation.

INTRODUCTORY LEVEL COURSES

- Business Essentials

TECHNICAL LEVEL COURSES

- Accounting
- Optional Supportive Courses*
- Business Economics
- Business Communications
- Business Law
- Entrepreneurship
- Advanced Spreadsheet Applications

APPLICATION LEVEL COURSES

- Financial Institutions and Services Strand*
- Banking and Finance
- Investing
- Risk Management and Insurance
- Accounting Strand*
- Advanced Accounting
- College Accounting
- Optional Supportive Courses*
- Finance - Workplace Experience
- Finance - Workplace Experience
- Advanced Finance - Workplace Experience

OCCUPATIONS

- Loan Interviewers and Clerks
- Insurance Claims and Policy Processing Clerks
- Payroll and Timekeeping Clerks
- Insurance Sales Agents
- Claims Adjusters, Examiners, and Investigators
- Compliance Officers
- Buyers and Purchasing Agents
- Securities, Commodities, and Financial Services Sales Agents
- Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other
- Accountants and Auditors
- Loan Officers
- Personal Financial Advisors
- Financial Managers

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma</i>		
* Loan Interviewers and Clerks		\$45,390
* Insurance Claims and Policy Processing Clerks		\$46,090
* Payroll and Timekeeping Clerks		\$47,530
Insurance Sales Agents		\$59,000
Claims Adjusters, Examiners, and Investigators		\$72,180
<i>Bachelor's Degree</i>		
* Compliance Officers		\$58,740
* Buyers and Purchasing Agents		\$62,840
* Securities, Commodities, and Financial Services Sales Agents		\$65,460
* Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other		\$67,216
* Accountants and Auditors		\$70,170
* Loan Officers		\$77,180
* Personal Financial Advisors		\$79,070
* Financial Managers		\$130,800
* High Demand, High Wage		
Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- MBA Research (ASK): Concepts of Finance
- CareerSafe: OSHA Safety Certification (10 Hour)
- Intuit: QuickBooks Certified User
- Microsoft (MOS) Excel
- Microsoft (MOS) PowerPoint
- Microsoft (MOS): Access
- Microsoft (MOS) Word
- MBA Research: Finance Program of Study Assessment
- NC3: Data Analytics/Harnessing the Power of Data
- Fundamental Payroll Certification (FPC)

POSTSECONDARY CREDITS

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- [Tiered Technical Courses ksde.org at Kansas Community and Technical Colleges](#)

POSTSECONDARY PROGRAMS

- [Kansas DegreeStats - Kansas Board of Regents ksdegreestats.org](#)
- [Degree Stats Lesson \(ksde.org\)](#)
- [K-TIP Report \(kansasregents.org\)](#)
- [Kansas Post-Secondary Exploration Guide \(ksde.org\)](#)

RESOURCES

- [CTE Course Competencies and Indicators \(ksde.org\)](#)
- [Kansas Labor Information Center \(KLIC\) - Kansas Career Posters \(ks.gov\)](#)
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- [Kansas DECA](#)



- [Business Professionals of America](#)







BUSINESS INDUSTRY

# Business Management & Administration

Business Management & Entrepreneurship

## Occupation Overview

Occupations & Degrees	Median Annual Wage
<i>Bachelor's Degree</i>	
* Human Resources Specialist	\$60,370
* Project Management & Business Operations Specialists	\$72,639
<i>Bachelor's Degree &amp; Less Than 5 Years Work Experience</i>	
* Training & Development Specialists	\$60,210
* Management Analysts	\$76,390
* Administrative Services & Facilities Managers	\$94,287
<i>Bachelor's Degree &amp; More Than 5 Years Work Experience</i>	
* General Operations Managers	\$81,070
* Human Resources Managers	\$119,200
* Chief Executive	\$131,640
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>	

# Business Management & Entrepreneurship

## Pathway

### INTRODUCTORY LEVEL COURSES

- Business Essentials

### TECHNICAL LEVEL COURSES

- Business Communications
- Business Management
- Entrepreneurship

*Optional Technical Level - Supportive Business & Entrepreneurship*

- Business Law
- IB Business and Management
- Accounting
- Business Economics
- Principles of Marketing

*Optional Technical Level - Supportive Entrepreneurship*

- Web Page Design
- Computer Graphics
- CAM
- Culinary Essentials
- Carpentry
- Remodel and Building Maintenance
- AgriScience
- Ag Welding
- Foundations of Early Childhood
- Engineering Design and Development
- Drafting/CAD
- Digital Marketing
- Production Welding
- General Service I
- Auto Collision

### APPLICATION LEVEL COURSES

- Business Management and Entrepreneurship Workplace Experience
- Advanced Business Management and Entrepreneurship Workplace Experience
- Applied Business Development

### OCCUPATIONS

- First-Line Supervisors of Office and Administrative Support Workers
- Training and Development Specialists
- Human Resources Specialists
- Project Management Specialists and Business Operations Specialists
- Management Analysts
- General and Operations Managers
- Administrative Services and Facilities Managers
- Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other
- Human Resources Managers
- Chief Executives

Occupations & Degrees		Median Annual Wage
<i>H.S. Diploma</i>		
* First-Line Supervisors of Office and Administrative Support Workers		\$58,250
<i>Bachelor's Degree</i>		
* Training and Development Specialists		\$60,210
* Human Resources Specialists		\$60,370
* Project Management Specialists and Business Operations Specialists		\$72,639
* Management Analysts		\$76,390
* General and Operations Managers		\$81,070
* Administrative Services and Facilities Managers		\$94,287
* Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other		\$102,811
* Human Resources Managers		\$119,200
* Chief Executives		\$131,460
* High Demand, High Wage Source: <a href="#">Kansas Labor Information Center (KLIC) - Career Posters (ks.gov)</a>		

This pathway generally focuses on enterprise management and entrepreneurship. Instruction includes areas of planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. General Management focuses on careers that plan, organize, direct, and evaluate all or part of a business organization through the allocation and use of financial, human, and material resources.



### HIGH SCHOOL ASSESSMENTS, CREDENTIALS, OR CERTIFICATIONS

- Adobe: Illustrator
- CareerSafe: OSHA Safety Certification (10 Hour)
- Intuit: QuickBooks Certified User
- Microsoft (MOS) Excel
- Microsoft (MOS) PowerPoint
- Microsoft (MOS): Access
- Microsoft (MOS) Word
- MBA Research (ASK): Concepts of Entrepreneurship/Management

- NC3: Data Analytics/Harnessing the Power of Data

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Topeka, Kansas 66612-1212  
(785) 296-3203  
[www.ksde.org/board](http://www.ksde.org/board)

## SUCCESS DEFINED

A successful Kansas high school graduate has the

- Academic preparation,
- Cognitive preparation,
- Technical skills,
- Employability skills and
- Civic engagement

to be successful in postsecondary education, in the attainment of an industry recognized certification or in the workforce, without the need for remediation.

## OUTCOMES

- Social-emotional growth
- Kindergarten readiness
- Individual Plan of Study
- Civic engagement
- Academically prepared for postsecondary
- High school graduation
- Postsecondary success

# Kansas State Board of Education

## BOARD MEMBERS

DISTRICT 1



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Vice Chair  
[Danny.Zeck@ksde.gov](mailto:Danny.Zeck@ksde.gov)

DISTRICT 2



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DISTRICT 9



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DISTRICT 10



Debby Potter  
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## MISSION

To prepare Kansas students for lifelong success through rigorous, quality academic instruction, career training and character development according to each student's gifts and talents.

## VISION

Kansas leads the world in the success of each student.

## MOTTO

Kansans Can



COMMISSIONER OF  
EDUCATION



Dr. Randy Watson  
[Randy.Watson@ksde.gov](mailto:Randy.Watson@ksde.gov)

DEPUTY COMMISSIONER  
Division of Fiscal and Administrative Services



Dr. Frank Harwood  
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DEPUTY COMMISSIONER  
Division of Learning Services



Dr. Ben Proctor  
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The Kansas State Department of Education does not discriminate on the basis of race, color, religion, national origin, sex, disability or age in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: KSDE General Counsel, Office of General Counsel, KSDE, Kansas State Office Building, 900 S.W. Jackson, Suite 121, Topeka, KS 66612, (785) 296-3201

*Kansas leads the world in the success of each student.*

Jan. 25, 2025

