

Agriculture, Food & Natural Resources



Agriculture, Food & Natural Resources focuses on preparing students for employment in careers that relate to the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.



PATHWAYS

- > Agricultural Mechanics Systems
- > Agricultural Production Systems
- > Food Science, Dietetics & Nutrition
- > Natural Resource Science
- > Plant Science
- > Veterinary & Animal Science

FACTS

- > Agriculture is the nation's largest employer.¹
- > Approximately 22 million Americans work in agriculture-related fields.¹
- > Of the 2.2 million farms in the U.S., 98 percent are family-owned and -operated farms.¹
- > Eighty-two percent of the U.S. agriculture products sold are produced on family-owned farms.¹
- > Utah has more than 1,800 farms and ranches that sell directly to consumers.²
- > In Utah, the occupational growth rate for veterinarians through the year 2024 is 5.5 percent.
- > Nationwide, employment of dietitians and nutritionist is projected to increase 16.4 percent through the year 2024.³

¹ U.S. Department of Labor

² Utah Department of Agriculture and Food

³ U.S. Bureau of Labor Statistics

“I have taken many CTE courses and I have figured out that animals are my passion!”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Agriculture, Food & Natural Resources Career Cluster** at UtahCTE.org.

Architecture & Construction



Architecture & Construction focuses on preparing students for employment in careers that relate to the designing, planning, managing, building, and maintaining the constructed environment.



Learning that works
for Utah

PATHWAYS

- > CAD Architectural Design
- > Construction & Structural Systems
 - Carpentry
 - Electrical
 - Plumbing
- > Interior Design

FACTS

- > In Utah, employment of architects is projected to grow 2.6 percent through the year 2024.¹
- > There are 10,467 construction companies in Utah that employ 93,584 workers.¹
- > Carpentry, electrical, HVACR, and plumbing occupations are high skill, high wage, and high demand.¹
- > Less than 25 percent of women are employed in carpentry, electrical, HVACR, and plumbing occupations.²
- > Nationwide, employment of interior designers in specialized design services firms is projected to grow 8 percent through the year 2024.²
- > In Utah, an architect and those employed in the building trades must be licensed.

¹ Utah Department of Workforce Services

² U.S. Department of Labor

“I have gained a lot of confidence during the past two years of high school as a result of taking CTE courses.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Architecture & Construction Career Cluster** at UtahCTE.org.

Arts, Audio/Visual Technology & Communications



Arts, Audio/Visual Technology & Communications focuses on preparing students for employment in careers that relate to the designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts, design, journalism, and entertainment services.



PATHWAYS

- > Broadcasting
 - Radio Broadcasting Technician
 - TV Broadcasting Technician
- > Fashion, Apparel & Textiles
- > Graphic Design & Communication
 - Commercial Art
 - Commercial Photography
 - Digital Media
 - Graphics Printing

FACTS

- > The broadcasting industry in Utah employs more than 2,000 workers.¹
- > The expanding electronic media and entertainment industries will offer opportunities for animators, illustrators, and graphic artists.
- > Employment of self-employed photographers is projected to grow 9 percent through the year 2024.¹
- > In Utah, the printing industry employs nearly 5,000 workers.¹
- > 7.4 percent of women are employed as radio and television communications equipment installers and repairers.²
- > Employment growth for fashion designers will stem from a growing population demanding more clothing, footwear, and accessories.³

¹ Utah Department of Workforce Services

² U.S. Department of Labor, Women's Bureau

³ U.S. Bureau of Labor Statistics

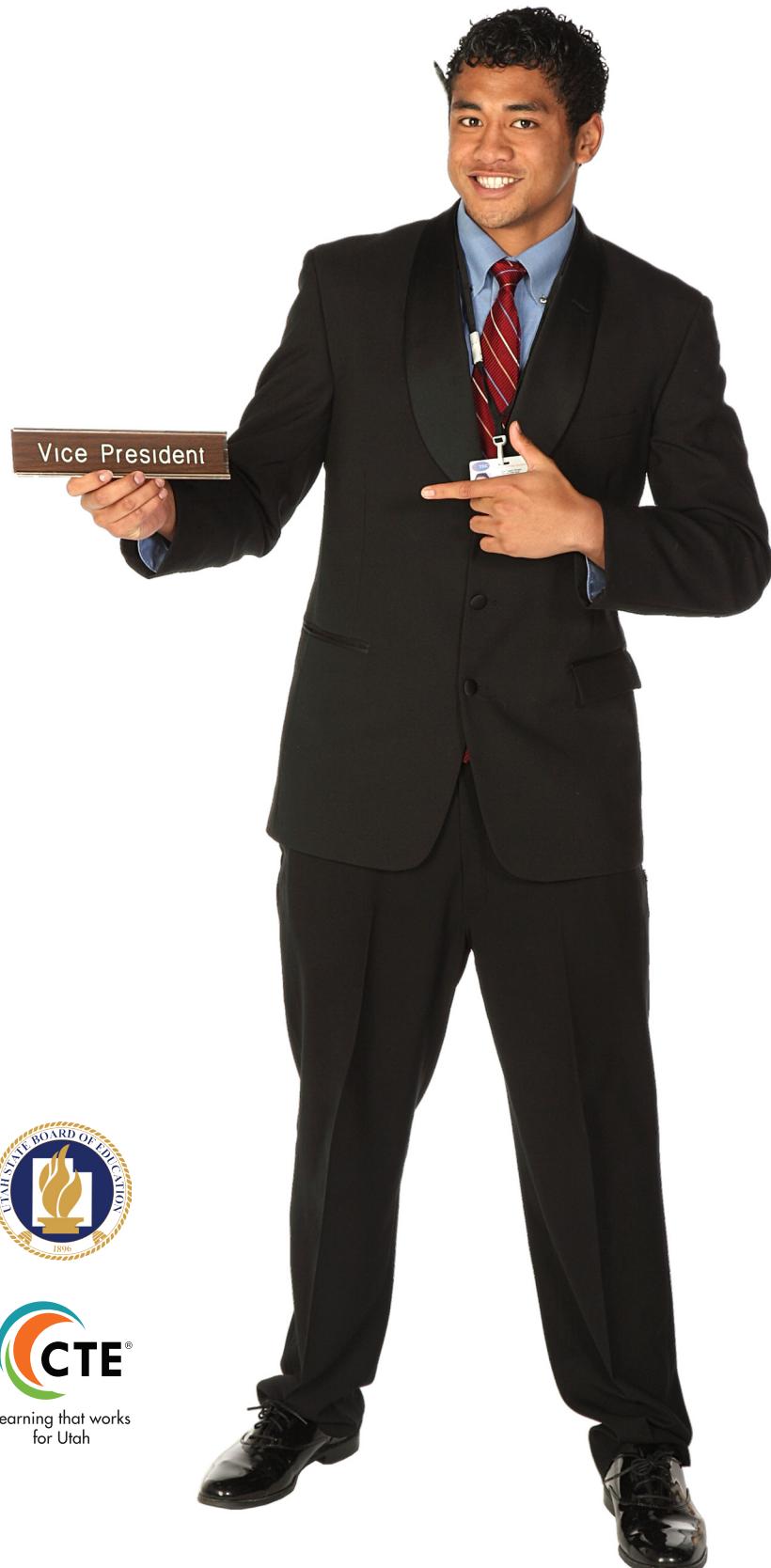
“Taking CTE courses in high school gave me hands-on experience and helped me to prepare for my career.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Arts, Audio/Visual Technology & Communications Career Cluster** at UtahCTE.org.

Business Management & Administration



Business Management & Administration focuses on preparing students for employment in careers that relate to the planning, managing, organizing, directing and evaluating business functions essential to efficient and productive business operations.



PATHWAYS

- > Customer Service Management
- > Entrepreneurship
- > Office/Administrative Support & Technical Support

FACTS

- > Professional and business services makeup nearly 13 percent of Utah's employment base.¹
- > In 2017, Fit Small Business ranked Salt Lake City and Utah as one of the top three states (ranking second) to launch a business.
- > In 2016, Forbes ranked Salt Lake City as the best city for business overall.
- > In 2015, Forbes named Utah the #1 State for Business, for the sixth time in the past seven years.
- > Professional and business services makeup nearly 13 percent of Utah's employment base.¹
- > There are over 56,000 small businesses in Utah. (A small business is one with fewer than 500 employees.)²

¹ Utah Department of Workforce Services

² U.S. Small Business Administration

“The CTE classes I was involved in helped prepare me for success in a business administrative program.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Business Management & Administration Career Cluster** at UtahCTE.org.

Education & Training



Education & Training focuses on preparing students for employment in careers that relate to the planning, managing, and providing education and training services, and related learning support services.



PATHWAYS

- > Pre-K: Early Childhood Education
- > K-12: Teaching as a Profession

FACTS

- > Elementary, middle, and secondary school teachers are in high demand across the state of Utah.
- > In Utah, an elementary, middle, and secondary school teacher must be licensed.
- > The annual growth rate for childcare workers is projected to increase 5 percent through the year 2024.¹
- > In Utah, seven under-graduate teacher prep programs rank in the top half of the 717 programs nationwide, as a Top Tier Secondary Teacher Prep Program.²
- > In 2016, there were 216,000 Career and Technical Education teachers in the U.S.³

¹ Utah Department of Workforce Services

² National Council on Teacher Quality (NCTQ)

³ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*

“I know teaching would be a good fit for me. I want to be an elementary teacher.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Education & Training Career Cluster** at UtahCTE.org.

Engineering & Technology



Engineering & Technology focuses on preparing students for employment in careers that relate to the planning, managing, and providing professional and technical services, including research and development services.



PATHWAYS

- > CAD Mechanical Design
- > Electrical Engineering
- > Mechanical Engineering
- > Robotics & Electronics

FACTS

- > Nationally, engineering is the second largest of all professions.¹
- > Engineering occupations are considered high skill, high wage, and high demand.
- > 13 percent of U.S. engineering jobs are held by women, with one in four jobs in technology, engineering, and mathematics.¹
- > In Utah, 620 mechanical drafters are employed by more than 3,000 businesses throughout the state.²
- > Most robotics engineers are employed by private companies and work in laboratory or production settings.
- > By 2024, Utah's workforce is expected to include a total of 29,260 people working as engineers, drafters, engineering technicians, and mapping technicians.²

¹ U.S. Bureau of Labor Statistics

² Utah Department of Workforce Services

“My high school drafting and engineering instructor was an amazing person and influenced my love of this field.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Engineering & Technology Career Cluster** at UtahCTE.org.

Finance



Finance focuses on preparing students for employment in careers that relate to the planning, services for financial and investment planning, banking, insurance, and business financial management.



PATHWAYS

> Accounting & Financial Operations

FACTS

- > Economists are found in state and federal businesses throughout Utah, earning a median salary of \$78,260.¹
- > In Utah, the average annual employment growth rate for personal financial advisors is 5.2 percent through the year 2024.¹
- > Accountants, those with a CPA, continue to be in demand in both public and private industry audit and tax specialties.²
- > In Utah, a Certified Public Accountant (CPA) must have a master's degree in accounting and be licensed. The license must be renewed every two years.¹
- > The median hourly wage for an experienced auditor and an accountant is \$30.22.¹
- > In Utah, employment personal financial advisors is projected to increase 4.4 percent annually through the year 2024.¹

¹ Utah Department of Workforce Services

² U.S. Bureau of Labor Statistics

“I love the field of business and have taken many CTE classes that are oriented toward business!”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Finance Career Cluster** at UtahCTE.org.

Health Science



Health Science focuses on preparing students for employment in careers that relate to the planning, managing, and providing therapeutic services, health informatics, support services, and biotechnology research and development.



PATHWAYS

- > Clinical Laboratory Science
 - Biotechnology
 - Medical Forensics
- > Emergency Medical Services
- > Nursing Services
- > Therapeutic Clinical Services
 - Dental
 - Exercise Science/Sports Medicine
 - Medical Assistant
 - Pharmacy Technician

FACTS

- > Healthcare is one of the largest and fastest-growing industries in the U.S., employing over 18 million workers in more than 200 careers.¹
- > Healthcare occupations are expected to make up seven of the 20 fastest growing occupations by the year 2030.²
- > Women represent nearly 90 percent of the healthcare workforce.¹
- > Nationwide, employment of forensic science technicians is projected to grow 27 percent through the year 2024.²
- > Utah consistently ranks among the healthiest states in the nation.¹
- > Within the healthcare industry, Utah is highly specialized in drug and pharmaceuticals. Leading biotechnology and pharmaceutical research companies are based in Utah.

¹ Centers for Disease Control and Prevention ² Utah Department of Workforce Service

“CTE classes have really helped me gain a true knowledge of the medical field.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Health Science Career Cluster** at UtahCTE.org.

Hospitality & Tourism



Hospitality & Tourism focuses on preparing students for employment in careers that relate to the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services.



Learning that works
for Utah

PATHWAYS

- > Culinary Arts
- > Hospitality & Tourism

FACTS

- > Utah restaurants employ more than 110,000 individuals.¹
- > In Utah, restaurant and food service jobs represent 10 percent of employment in the state.¹
- > Students participating in ProStart® can become industry certified while in high school.
- > In 2016, sales in Utah restaurants totaled \$4.4 billion.¹
- > Nationwide, 21.4 percent of people employed as chef and head cooks are women.³
- > Travel and tourism is one of the largest and fastest growing industries in the world, with annual sales exceeding a half-trillion dollars.²

¹ National Restaurant Association

² U.S. Department of Labor

³ U.S. Department of Labor, Women's Bureau

“My high school ProStart® CTE class was a stepping stone on my journey to becoming a chef.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Hospitality & Tourism Career Cluster** at UtahCTE.org.

Human Services



Human Services focuses on preparing students for employment in careers that relate to the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services.



PATHWAYS

- > Community, Family & Social Services
- > Personal Services
 - Cosmetology/Barbering
 - Esthetician/Nail Technician

FACTS

- > There are 1,097 personal care services businesses throughout Utah, employing 88.1 percent of individuals practicing in this profession.¹
- > In Utah, more than 4,000 individuals are employed as a hairdresser, hairstylist, and cosmetologist.¹
- > In Utah, a hairdresser, hairstylist, barber, cosmetologist, electrologist, and nail technician must be licensed.¹
- > The licensing hour requirements for personal services professionals in Utah are:
 - Barber: 1,000 hours or 1,500 apprenticeship hours
 - Cosmetologist: 1,600 hours or 2,500 apprenticeship hours
 - Electrologist and Esthetics: 600 hours
 - Nail Technologist: 300 hours

¹ Utah Department of Workforce Services

“The CTE Cosmetology/Barbering Career Pathway has saved me a lot of time and money.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Human Services Career Cluster** at UtahCTE.org.

Information Technology



Information Technology focuses on preparing students for employment in careers related to building linkages in IT occupations for entry level, technical and professional careers that relate to the design, development, support and management of hardware, software, multimedia and systems integration services.



PATHWAYS

- > Information Technology Systems
- > Programming & Software Development
- > Web Development

FACTS

- > IT occupations account for \$6.9 billion (14.3 percent) of Utah's total payroll.¹
- > Tech occupations are high, skill, high wage, and are in high demand, especially in Utah.
- > In Utah, there are approximately 7,000 tech-focused companies.¹
- > Utah has deep consumer software roots. Ancestry.com, Overstock.com, Backcountry.com, and Vivint.com all started in the Beehive State.
- > With more than 1 billion websites and more than 3 billion Internet users worldwide, the demand for individuals skilled in digital media is high.
- > "The talent pool of computer engineers, digital artists and animators in Utah is astounding," said WildWorks CEO Clark Stacey.

¹ Utah Technology Council

"I've learned how computers talk to each other while receiving the IC3 and A+ certifications."

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Information Technology Career Cluster** at UtahCTE.org.

Law, Public Safety, Corrections & Security



Law, Public Safety, Corrections & Security focuses on preparing students for employment in careers that relate to the planning, managing and providing legal, public safety, protective services and homeland security, including professional and technical support services.



PATHWAYS

- > Public Safety & Law Enforcement
 - Protective Services

FACTS

- > In Utah, there are 3,742 total agencies who employ police and sheriff's patrol officers.¹
- > Police and sheriff's patrol officers are found in local, state, and federal agencies throughout Utah.
- > In Utah, the occupation projection for firefighters is 140 annual openings.
- > Those who have completed some firefighter education at a community college and have an EMT certification will have an advantage.
- > Police candidates must be U.S. citizens, usually at least 21 years old, and able to meet rigorous physical and personal qualifications.²
- > Most firefighters receive training at a fire academy, pass written and physical tests, and hold an emergency medical technician (EMT) certification.²

¹ Utah Department of Workforce Services

² Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*

“The CTE program provided me with the opportunity to prepare myself for a career in law enforcement.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Law, Public Safety, Corrections & Security Career Cluster** at UtahCTE.org.

Manufacturing



Manufacturing focuses on preparing students for employment in careers that relate to the planning and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.



Learning that works
for Utah

PATHWAYS

- > Advanced Manufacturing
 - Cabinetmaking/Millwork
 - Machine Tool
- > Aerospace Manufacturing
- > Biomanufacturing
- > Welding

FACTS

- > ATK and Hill Air Force Base are two of the largest aerospace employers in Utah.¹
- > Aerospace and aviation companies located in Utah employ more than 42,000 workers.²
- > From residential to commercial construction, cabinetmakers and carpenters are in demand throughout Utah.²
- > Machine tool job prospects for will be best for highly skilled workers and those with knowledge of computerized machine tool operation.³
- > The Northern Utah region of Utah has a strong existing base of aerospace and composites companies, with more than 30 companies and an estimated 16,500 employers.

¹ Governor's Office of Economic Development (GOED)

² Utah Department of Workforce Services

³ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*

“CTE courses helped me find the desire and interest to explore and learn more about the field of welding.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Manufacturing Career Cluster** at UtahCTE.org.

Marketing



Marketing focuses on preparing students for employment in careers that relate to the planning, managing and performing marketing activities to reach organizational objectives.



PATHWAYS

> Marketing & Sales

FACTS

> In 2017, CNBC ranked Provo, Ogden, and Salt Lake City as one of the top twenty best places to start a business. Each metro area was hailed as a small-business hot spot.

> The top three public relations firms in Utah are: Fusion 360, Penna Powers, and Method Communications.¹

> In Utah, the average annual employment growth rate projected for market research analysts and marketing specialists is 5.1 percent through the year 2024.²

> A bachelor's degree is required for most advertising, promotions, and marketing management positions. These managers typically have work experience in advertising, marketing, promotions, or sales.³

¹ Utah Business Magazine

² Utah Department of Workforce Services

³ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*

“I know that by practicing all the skills I’ve learned in my CTE classes, I will be a successful business owner.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Marketing Career Cluster** at UtahCTE.org.

Transportation, Distribution & Logistics



Transportation, Distribution & Logistics focuses on preparing students for employment in careers that relate to the planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.



Learning that works
for Utah

PATHWAYS

- > Automotive
 - Collision Repair
 - Service Technician
- > Aviation
- > Diesel

FACTS

- > Job opportunities in the automotive industry are very good for persons with formal training in automotive body repair and mechanics.¹
- > The occupations of Automotive Service Technicians and Mechanics is projected to experience a high volume of annual job openings.¹
- > Job opportunities in the automotive industry are expected to be very good for persons with formal training, strong diagnostic and problem-solving skills, and knowledge of electronics and mathematics.¹
- > Rising population and income will drive demand for airline travel and the need for commercial aviation workers. Those who have attended college for at least 2 years and have experience dealing with the public should have the best prospects.¹

¹ Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*

“The CTE courses at my high school were a huge part of my decision to become an automotive technician.”

Participation in and completion of a CTE Career Pathway will provide you with the academic knowledge and technical skills to successfully compete in a global economy. Learn about Career and Technical Education and the **Transportation, Distribution & Logistics Career Cluster** at UtahCTE.org.