Utah CTE Pathways:

Connecting High School to College and Career

Parent-Student Guide

CAREER TECHNICAL EDUCATION

GIVING STUDENTS THE EDGE

Utah CTE Pathways: Connecting High School to College and Career

Utah High School to College and Career Pathways

Dear Parents,

The world of work is changing. Students graduating 20 years ago were encouraged to choose an appropriate occupation. They expected that by getting the right training and by working hard, they would advance through their career and eventually retire. Today's students face a much more complex economy. They will make a whole series of career decisions across their lifetimes that will include going back to school or learning on the job in order to adapt to rapidly changing markets. Their roles as "worker" and "learner" will be more integrated with other life roles.

Talk to your children about careers. Share your own career challenges and successes. Encourage them to learn everything they can about themselves and to explore the entire range of educational and career opportunities available to them. Hopefully, this book will give you a place to start.

Dear Students,

Today is an exciting time to be in high school. You have so many opportunities that your parents and grandparents didn't have – opportunities that will jump-start your future. Technological advances and global competition have changed the nature of work. Jobs today require high-tech knowledge and advanced technical skills. Work and learning will be integral parts of your life as you pursue your personal pathway to success.

Study, plan, and prepare for life after high school. Talk with your school counselor and discuss how the **Career and Technical Education (CTE) Pathways can be integrated as part of your SEOP.** CTE Pathways include the high school courses and post-secondary options most relevant to your career goals. CTE will expose you to many different occupations, along with providing opportunities for hands-on training and experience. As you prepare for life after high school it is important that you explore programs, plan your next-steps, and select which school best fits your needs. Taking classes that offer concurrent enrollment credit will save you time and money as you continue your education after high school. Whether your next step is college or direct entry into the workforce, CTE will give you the edge.

Your future employers are waiting for you. They need your skills, they need your talents, they need your ideas, they need your knowledge, they need your ambition, and they need your experience to help them succeed, to be competitive, and to further advance into the 21st century. Let this book introduce you to the opportunities that await you.

"Students, plan now, understand your choices, and take hold of opportunities to build your future."

Larry K. Shumway, Ed.D., State Superintendent of Public Instruction

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Utah State Office of Education
250 East 500 South
P.O. Box 144200
Salt Lake City, UT 84114-4200

Martell Menlove, Ed.D.
State Superintendent of Public Instruction

Mary Shumway
State Director of Career and Technical Education

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How to Use This Book

This book is packed full, but you don't need to read every word. Here are some suggestions for getting started.

For Parents:

- **If you want to know what Pathways are**, check out pages 3-9. Learn how Pathways can inform the development of your student's College and Career Plan.
- **For a list of the Areas of Study** and the associated Pathways, refer to page 23.
- **Talk to your student** about the Area(s) of Study that most appeal to him or her. (If your student hasn't yet narrowed down an Area of Study, refer him or her to the activities on pages 10-21.)
- **If you want to see a sample program of study** that reflects the high school courses suggested for students who are interested in a particular Pathway, check out any example on pages 24-39 (listed with the corresponding Area of Study).
- **For additional details** about the Pathways, visit UtahCTE.org.
- **Talk to your student's school counselor** about the Pathways at your school.
- **Participate in your student's College and Career Plan**.

For Students:

- **If you're unsure about your interests**, abilities, values, or educational aspirations, check out the activities on pages 10-21. Understanding your personal characteristics will help you find the education and career opportunities that are most consistent with your needs and preferences.
- **Once you focus on an Area of Study**, review the list of related Pathways for that Area (page 23) and consult with your school counselor about the Pathways available at your high school.
- **To see an example of the Pathway**, and the specific high school courses that are suggested for students, look at the example for the Area(s) of Study in which you're most interested (pages 24-39).
- **To use your Pathway** as the foundation of your College and Career Plan, take full advantage of the information and tools in UtahFutures.org — Career Information System.
- **Be an active participant in your College and Career Plan**, and seek the guidance of your parents and school counselors all along the way.

CTE: *Giving Students the Edge*

Career and Technical Education (CTE) offers students depth of knowledge and skill, linked with specific postsecondary school programs culminating in certificates or degrees. CTE provides critical learning and hands-on skills through Pathways within eight Areas of Study. Students who focus on a Pathway acquire the skills necessary for entry into well-paid careers with high potential for rapid financial growth, increased levels of responsibility, and a high degree of personal satisfaction.

CTE Areas of Study

- Agricultural Education
- Business Education
- Family and Consumer Sciences Education
- Health Science Education
- Information Technology Education
- Marketing Education
- Skilled and Technical Sciences Education
- Technology and Engineering Education

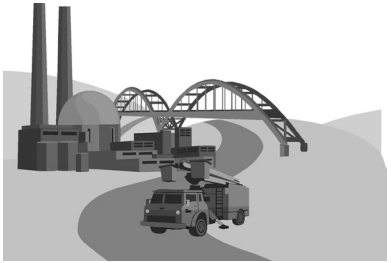
Sample List of Pathways

- Agricultural Systems Technology
- Accounting and Finance
- Child Development
- Nursing
- Digital Media
- Marketing Management
- Carpentry
- Pre-Engineering

Postsecondary education means a one-year certificate, a two-year associate or technical degree, or a four-year bachelor's degree.

Connecting High School to College and Career

- Career and Technical Education has Career Pathways within eight Areas of Study. Each Pathway is structured so you can investigate a wide range of career choices. Pathways make it easier for you to understand the relevance of required courses and help you choose elective courses more wisely.
- CTE Pathways show you a direct connection between doing well in high school and being able to transition smoothly to post-secondary opportunities or getting a good job after you graduate.
- CTE Pathways equip you with the technical skills and academic knowledge needed to prepare for future employment and/or successful transition to postsecondary education.
- By focusing on a CTE Pathway you will acquire the skills necessary for entry into a well-paid career with high potential for rapid financial growth, increased levels of responsibility, and a high degree of personal satisfaction.
- Each CTE Pathway features career exploration and Work-Based Learning (WBL) opportunities connected to your career interest area.
- Through participation in CTE Pathways courses, you are encouraged to take a test in the area in which you are studying. After successfully completing a specific skill certificate test, demonstrating substantial skill at 80 percent on ALL performance objectives and 80 percent on the written test, you will be awarded a CTE Skill Certificate.
- Over one-third of all available CTE Pathway courses offer concurrent enrollment credit. This gives you the opportunity to earn college credit while in high school, saving time and money, putting you on the fast-track to earning an industry license or associate degree.



Did you know . . .

Dropout Prevention

Utah ranks eighth-highest in the nation in the percentage of high school graduates.

Utah high schools graduate 88 percent of their students, compared to the national average of 74.7 percent.

Students who earn CTE credits tend to remain in school. In fact, CTE students are three times less likely to drop out of school.

A combination of 60 percent academic courses and 40 percent CTE is the most effective dropout prevention program in the American high school.

Job Placement

The more CTE courses students take, the less likely they are to suffer periods of unemployment.

Career and Technical Education graduates find employment 2.2 times faster than graduates from general education programs.

High school students who graduate with a CTE concentration are 2.5 times more likely to be employed while pursuing post-secondary education.

Eighteen of the 20 fastest growing occupations within the next decade will require Career and Technical Education.

Exploring CTE Pathways In:

- High school
- Two- and four-year colleges
- Utah College of Applied Technology

Career and Technical Education prepares students for tomorrow's workplace. Educators work closely with the Department of Workforce Services and Utah employers to make sure students have the skills the labor market demands.

Encouragement for Further Learning

In Utah, there are over 325,000 secondary and postsecondary CTE students.

Many postsecondary institutions in Utah offer technical programs, including community colleges, technical institutes, skill centers, and other public and private two- and four-year colleges. Over 27,000 high school students take courses at these postsecondary institutions through concurrent enrollment and training at UCAT. In addition, there are a variety of other public and private schools that offer technical training in Utah.

What CTE Can Do for Your Teen

Eight facts every parent should know.

1. CTE EXPANDS YOUR TEEN'S OPTIONS

CTE is a structured training program that includes:

- Career exploration and planning.
- Direct preparation for employment.
- Preparation for a postsecondary education.

CTE courses and programs introduce students to career options and assist them in the development of career choices.

2. CTE OFFERS A PATH TO SUCCESS

CTE prepares teens for more than a good paying job. It's the beginning of a career path. Most new jobs require specific postsecondary advanced technical training. CTE meets that need by providing career exploration, career paths, and links to postsecondary CTE programs. CTE takes students into the real world, and training approximates real work situations.

Career and Technical Education:

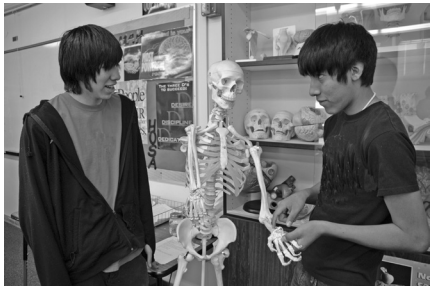
- Keeps teenagers in school.
- Improves daily attendance.
- Improves graduation rate.
- Connects to postsecondary education.
- Enhances academic achievement.
- Is an economic value.

3. CTE CHALLENGES YOUR TEEN TO THINK

CTE includes every program, project activity, and organization that is in the business of preparing Utah students for successful careers. CTE students are challenged to apply theoretical knowledge—learned in academic and tech classrooms—to practical problems in laboratories or at work sites.

4. CTE OFFERS TOOLS FOR DEVELOPING A MEANINGFUL PLAN

Talk to a school counselor about the career assessments and other tools that are available to your teen. Defining career interests and other characteristics will lead students to the education and career opportunities that promise to meet their needs.



5. CTE PROVIDES CONCURRENT ENROLLMENT

- Concurrent enrollment is linked directly to postsecondary institutions, so students can meet preliminary requirements for postsecondary degrees while still in high school. These programs increase the number of students going to college and improve their likelihood of success.
- Your teen will reduce the time and tuition needed to earn a postsecondary degree through technical school or two- or four-year college.
- Taking concurrent enrollment classes helps your teen develop essential study habits and critical thinking skills needed to succeed in college.

6. CTE HELPS PAY FOR POSTSECONDARY EDUCATION

- By taking CTE concurrent enrollment classes, your teen can earn college credit without having to pay tuition, as long as he or she is attending high school.
- CTE enables students to acquire the skills necessary for entry into good paying careers with high potential for rapid financial growth, increased levels of responsibility, and a high degree of personal satisfaction.
- CTE is a proven means of maximizing income and employment potential.

7. CTE BROADENS LIFELONG CAREER AND EDUCATION OPTIONS

- Nine out of ten Utah employers have difficulty finding qualified people to fill job openings. CTE provides long-term job education and skills training, enabling teens to reach their full potential.
- Studies reveal a strong correlation between education/technical skills levels and continued employment/lifelong earnings.

8. CTE STUDENTS ACQUIRE LIFE SKILLS THAT APPLY TO ANY CAREER

More than half of Utah employers report that the quality of applicants is the primary challenge (i.e., workers lack basic skills). Employability skills taught in CTE programs include the following:

- Communication
- Teamwork
- Leadership
- Goal setting
- Resource management
- Using technology
- Personal responsibility
- Higher-order thinking

Why choose a Pathway?

For those students who are accustomed to mapping out a plan to achieve a goal, choosing a Pathway is simply a part of the planning process. On the other hand, you may be the parent of a student who is suspicious of plans, one who prefers to forge his or her own unique pathway. In either case, students should understand that choosing a Pathway is like choosing a map. You're not locked into any one destination by choosing a particular map; a map simply provides some information that will help you travel more effectively in a given geographic region. Similarly, the Utah Pathways are the maps that can help students navigate more effectively through their high school and postsecondary experiences. Specifically, each Pathway guides students to the high school courses and postsecondary options most relevant to their education and career goals.

Why is a parent's help important?

Parents know their children better than anyone else, and are invested in helping them make the education and career plans that will suit them. And despite what you might think in the midst of a heated discussion about what their friends get to do, research shows that parents have the greatest influence on their child's career and education choices.

As a parent, how can I enhance my student's education and career planning process?

The Utah Comprehensive Counseling and Guidance Program (CCGP) supports students' career exploration and planning throughout their secondary school experience, and facilitates the transition to post-secondary education and career opportunities. Your student will have opportunities to take formal assessments to help him or her better understand his or her unique set of interests, talents and values. By being an active participant in your student's College and Career Plan process, you will be there to help your student understand how that unique set of characteristics can be applied successfully to succeed in school and in work.

What career information does my student need?

Helping your student ask some good questions about potential education and career options will result in choosing a Pathway that best meets his/her needs. Many of these questions are explored as part of the CCGP, but parents can play a critical role in helping students clarify the issues and apply the information to their own personal situations. Here is a sample of the information that should be made available to you and your students about the Career Pathways.

- What preparation/education do I need to succeed in this Career Pathway?
- Where can I get training for the occupations related to this Career Pathway?
- What is the job outlook for occupations related to this Pathway?
- What knowledge and skills are needed to succeed in this Pathway?
- Is this Career Pathway well suited to my interests?
- Will this Pathway give me opportunities to apply my unique talents and abilities?
- Does this Pathway support my work values?

Student Exploration

Your College and Career Plan process should include many opportunities to explore your interests, abilities, values, and educational aspirations. Having information about these characteristics allows you to map out your Pathway (i.e., your personal high school program of study, and the related opportunities beyond high school—both educationally and occupationally) as you pursue lifelong learning and career success.

Participate in your student's individual College and Career Plan with their school counselor, and keep track of the process online at UtahFutures.org.

CTE Pathways:

- Will jump-start your future career.
- Will give you unlimited opportunities.
- Will help you plan for life after high school—before graduation.
- Will save you time and money.

Explore Your Career Interests

Career interests are the most frequently assessed factor in helping students with their college and career planning. If you're still trying to figure out how to connect your interests to career opportunities, try the following activity.

This activity is designed to help you discover the Area(s) of Study most related to your career interests. This is not a formal measure of your interests, but simply a way to help you organize what you know about yourself in a way that will help you connect to relevant programs of study in high school and beyond.

1

Circle the letter next to the statements below that describe something you would choose to do in your spare time.

(S) Work on cars.
(I) Write a computer program.
(B) Clean out your backpack.
(T) Design an efficient way to water your yard.
(F) Volunteer at a homeless shelter.
(H) Learn CPR.
(M) Sell things on eBay.
(A) Plant a garden.

2

Below is a list of "channels" from a popular Internet service. Circle the letter next to each channel that you think would be fun to visit via the Internet. Circle as many as you want.

(F) People Connections
(H) Exercise
(S) Autos
(B) International
(I) Games
(M) Travel
(T) Research & Learn
(M) Shopping
(H) Health & Diet
(I) Computing
(F) Style
(S) Do-it-Yourself
(A) Pets
(B) City Guide
(A) Go Green
(T) Maps

3

Say there were no "core subject" requirements for your next year of school. If you could choose all eight of the courses you would take to fill your schedule, which of the following would you choose? (Choose **eight** by circling the corresponding letters.)

(B) Accounting	(F) Entrepreneurship in FACS	(F) Fashion Merchandising	(H) Health Science
(S) Carpentry	(I) Computer Programming	(I) Data Development	(B) Business Communication
(A) Animal Science	(A) Natural Resource Mgt.	(H) Exercise Science	(S) Automotive Service Tech
(M) Marketing	(F) Child Development	(B) Business Management	(T) Materials & Processes
(T) Foundations of Technology	(T) Principles of Engineering	(I) Multimedia	(M) Travel & Tourism
(M) eCommerce	(H) Biotechnology	(S) Construction Trades	(A) Plant & Soil Science

4

Now count and record the number of times (total from steps 1-3) you circled:

A=_____	B= _____	F= _____	H= _____
I= _____	M= _____	S= _____	T= _____

You will be transferring this information to your summary (pages 18-19) as you work to identify "The Possibilities" (pages 20-21) most suited to you!

Identify Your Strengths

Are you aware of any particular knack you have for doing something well? Knowing your strengths is helpful as you begin to consider education, training, and the likelihood of career success. This short exercise will help you to think about things you do well and how those strengths might be applied in the world of work. (Please keep in mind that this is not a formal assessment.)

Each group of tasks listed below illustrates how a particular aptitude* might be applied. Think about how well you perform the tasks listed (or similar tasks), and how easily you learned to do them. Then rate your ability on a scale of 1-5 (1 = better than almost everybody you know; 3 = about the same as everyone else; 5 = worse than most people you know).

Aptitude	Sample Tasks to Which Aptitude Might Be Applied	My Rating (1-5)
Verbal Ability	Writing a book report; giving an oral report; expressing a point of view; reading and understanding news articles.	
Arithmetic Reasoning	Solving story problems; choosing good buys at a market; working Sudoku puzzles; deciding on a tip to pay a server at a restaurant.	
Computation	Adding up cost of items for purchase; quickly dividing restaurant bill among friends; tracking expenses; figuring percentages.	
Spatial Ability	Building models; doing jigsaw puzzles; assembling craft kits to make useful objects; folding paper according to a pattern (origami).	
Form Perception	Setting up computer and other equipment according to picture diagrams; quickly matching parts to those on an inventory list; recognizing objects “hidden” in pictures; using maps and diagrams.	

* The job-relevant abilities used by the U. S. Department of Labor in describing occupations.

Aptitude Strengths

Aptitude	Sample Tasks to Which Aptitude Might Be Applied	My Rating (1-5)
Clerical Perception	Proofreading printed material; finding errors in a printed list of names; discovering inaccuracies in a spreadsheet; noticing typos on printed mailing labels.	
Motor Coordination	Riding a bike; cutting out patterns as marked on different types of material; fishing; repairing tears in clothing.	
Finger Dexterity	Keyboarding; playing a flute; replacing watch batteries; using fingers to manipulate very small objects with ease.	
Manual Dexterity	Painting; using hand tools; weeding a garden; using hands to manipulate objects according to defined standards.	

Now look back at the aptitudes listed (and the related tasks). For those for which you have a real knack, choose three that you hope you will be able to apply in a work setting. In other words, which of your strengths do you think are likely to contribute to both your **ability to succeed** in the workplace and your **enjoyment** of a job? Please list these in the spaces below.

_____ _____ _____

Discover Your Work Values

It is generally accepted that people who choose occupations that support their work values experience greater job satisfaction. Knowing what motivates you to do good work will add another dimension to your career exploration.

This very brief (and merely introductory) activity is designed to help you organize what you know about your motivations to work in a way that can connect you to suitable occupations. Simply read the descriptions of the six broad work values below, and rank them in order of how important they are to you (1 = most important, 6 = least important).

☐ **ACHIEVEMENT**
It is important to you to work in an occupation that maximizes your strengths. You experience a strong feeling of accomplishment when you see the results of your work. (In a school setting, it is important to you to achieve good grades.)

☐ **INDEPENDENCE**
It is important to you to work in an occupation that allows you to try out your own ideas and work with minimal supervision. You like to make your own decisions and work at your own pace. (In a school setting, it is important to you to decide how and when to do class assignments, and you prefer to work on your own.)

☐ **RECOGNITION**
It is important to you to work in a prestigious occupation—one that others view with respect. You want to have opportunities to move up the ladder, make more money and take on leadership roles. (In a school setting, you enjoy having others admire completed school assignments, and you work to improve your class ranking.)

☐

RELATIONSHIPS

It is important to you to have friendly co-workers, and that your work is of service to others. A work environment that offers opportunities to socialize with others makes your work more meaningful. (In a school setting, you view service projects as an important part of your education, and you often work with classmates to complete assignments.)

☐

SUPPORT

It is important for you to know that the organization for which you work will stand behind its workers and that work supervisors are competent, considerate and fair. (In a school setting, you tend to work most diligently in classes taught by teachers you admire and see as helpful and fair.)

☐

WORKING CONDITIONS

It is important to you to work in an environment that satisfies your personal working style preferences, whether that is a comfortable physical environment, high job security, financial rewards, variety in work tasks, or meeting other such needs. (In a school setting, you can think about what physical surroundings are most conducive to your class participation, what grabs and keeps your attention in class, and what other aspects of school seem to encourage your best work.)

Options for Education and Training Beyond High School

A key component of career planning is to consider all the alternatives for developing the skills needed to enter a particular occupation or field. Typically people think in terms of the traditional bachelor's degree, but there are other options that deserve equal attention.

Take a few minutes to review the descriptions of the various alternatives for training and education beyond high school. Think about what avenues offer the best opportunities and preparation for the careers you are seriously contemplating. Mark every option that is viable for you with an "X."

☐ **EMPLOYER-PROVIDED TRAINING**
Formal training is most likely to be provided by mid-size to large organizations, but some employers also offer financial assistance to workers who pursue outside training and education opportunities in conjunction with chances to advance up the corporate career ladder.

☐ **APPRENTICESHIP** (for more information: www.utahtraining.org)
Today's registered apprenticeships offer paid on-the-job training and related classroom instruction that results in licensure at the conclusion of a program, which may be from two to five years in length.

☐ **MILITARY** (for more information: www.myfuture.com)
The military offers a wide range of educational opportunities, and the skills learned are easily transferable to civilian high-skill/high-wage careers. While in the military there are multiple opportunities to study in advance, during, and after your service, with numerous programs to help pay the costs. All branches of the military encourage and support certificate, degree and advanced degree completion.

CERTIFICATE PROGRAMS

If the goal is to acquire specific skills to enter an occupation as quickly as possible, certificate programs are ideal. The Utah Colleges of Applied Technology (ATCs include Bridgerland, Davis, Dixie, Mountainland, Ogden-Weber, Southwest, Tooele, Uintah Basin) offer short-term, open-entry/open-exit options that could be right for you. (Check for possible limitations in terms of transferability.) Other colleges also offer CTE credits, and these credits are generally transferable.

ASSOCIATE DEGREE PROGRAMS

The main public provider of associate degrees is the community college. Be sure to investigate the options for the Associate Degree of Applied Science in every Area of Study. These programs feature "hands-on" courses and are often articulated with four-year technology degrees.

BACHELOR'S DEGREE PROGRAMS

Traditionally called "four-year degrees," these programs often take longer than four years to complete. They are designed to prepare students for academic careers or for pursuit of advanced professional degrees. Be sure to explore bachelor's programs in technology, which offer highly relevant training to compete in today's global marketplace.

Be sure to check out the job outlook for the occupations related to any education program you are considering.

Summary Worksheet

The activities on pages 10-17 are informal, but like any assessment they are designed to help you learn more about yourself in preparation for finding the education and occupation opportunities that best match your personal characteristics and future goals.

Based on the activities you completed on pages 10-17 and additional career exploration experiences, complete the following summary of your interests, abilities and skills, work values, and preferences for training and education beyond high school.

Career Interests: Check the key below to discover which Area of Study corresponds to the letter codes from the activity on pp. 10-11. Write in the two Areas of Study for which you demonstrated the highest interest.	**First Choice Area of Study**	**Second Choice Area of Study**
Aptitude Strengths: Completing the activity on pp. 12-13 resulted in the identification of three strengths. Choose only two of those to list here—the two that you are the most eager to use on an everyday basis.	**Primary Strength**	**Secondary Strength**

Work Values: Completing the activity on pp. 14-15 resulted in a rank order of your work values. The top two should reflect the most important needs you hope to fulfill by working.	**Work Value Ranked as 1**	**Work Value Ranked as 2**
Education and Training: Write in the two options for education and training beyond high school (pp. 16-17) that are under serious consideration by you and your parents.	**Postsecondary Education Option 1**	**Postsecondary Education Option 2**

Your school counselor can help you use this information as you develop a plan that will meet your personal characteristics and circumstances. Your plan may include selecting a Pathway in one of these Areas of Study:

Agriculture
Business
Family and Consumer Sciences
Health Science
Information Technology
Marketing
Skilled and Technical Sciences
Technology and Engineering

Check Out the Possibilities

This table is designed to help you organize information about yourself so that you can use it to consider how Pathways within the Areas of Study that are interesting to you will match your other needs and wants. Review the Pathways listed for your top Areas of Study (see page 23), and select up to three Pathways for further review.

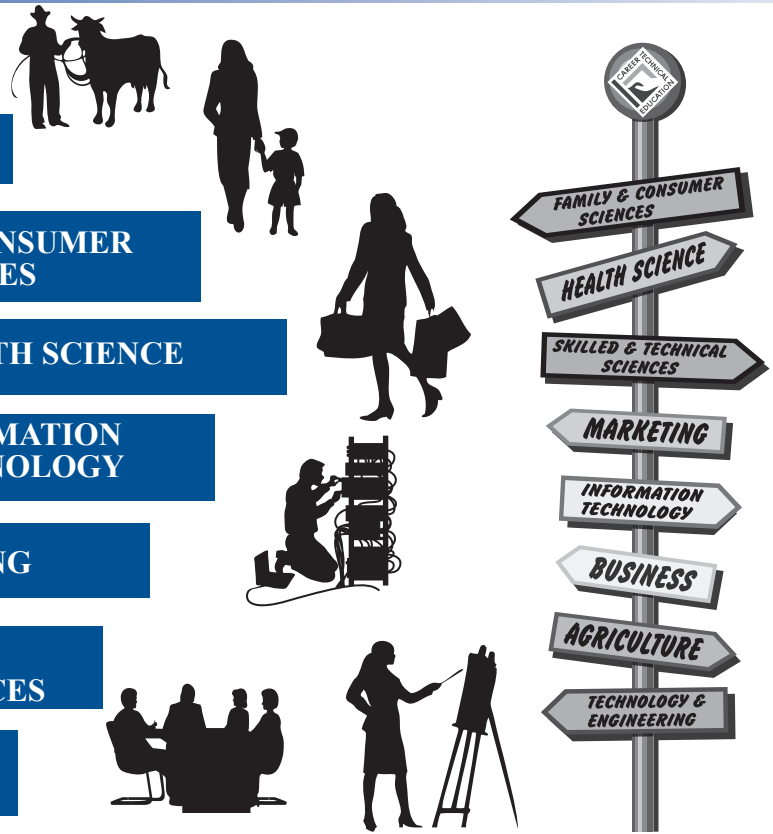
FIRST CHOICE AREA OF STUDY: Fill in_____	**Does the selected occupation use my Aptitude Strengths?**	**Is the selected occupation consistent with my Work Values?**	**What are the recommended postsecondary training routes?**
Selected Pathway 1A			
Selected Pathway 1B			
Selected Pathway 1C			

SECOND CHOICE AREA OF STUDY: Fill in_____	**Does the selected occupation use my Aptitude Strengths?**	**Is the selected occupation consistent with my Work Values?**	**What are the recommended postsecondary training routes?**
Selected Pathway 2A			
Selected Pathway 2B			
Selected Pathway 2C			

Choosing a Pathway in high school will truly jump-start your future! Reviewing the information from the table will allow you to identify the Pathway that best suits your personal characteristics and your goals for the future. Talk to your high school counselor about the related courses and other opportunities available to you, and then re-visit your plan regularly to take advantage of new information that you learn about yourself and emerging opportunities made available in your school and community.

Utah's Areas of Study

- AGRICULTURE
- BUSINESS
- FAMILY & CONSUMER SCIENCES
- HEALTH SCIENCE
- INFORMATION TECHNOLOGY
- MARKETING
- SKILLED & TECHNICAL SCIENCES
- TECHNOLOGY & ENGINEERING



Agricultural Education
> Agricultural Systems Technology
> Horticulture Science
> Natural Resource Science
> Production/Processing Animal Science
> Production/Processing Plant & Soil Science
> Production/Processing Science

Business Education
> Accounting & Finance
> Business Administrative Support
> Business Entrepreneurship
> Business Management
> Business Technology Support

Family & Consumer Sciences Education
> Child Development
> Consumer Economics Services
> Family & Human Services
> Fashion Design, Manuf., & Merchandising
> Food Science, Dietetics & Nutrition
> Food Services & Culinary Arts
> Hospitality Services
> Interior Design

Health Science Education
Biotech Research & Development
> *Biotechnology*
Diagnostics
> Clinical Lab and Medical Forensics
Health Informatics
> *Medical Office Administrative Assistant*
Therapeutic Services
> *Dental*
> *Emergency Medical Technician (EMT)*
> *Medical Assistant*
> *Nursing*
> *Pharmacy*
> *Surgical Technician*
> *Therapeutic Rehabilitation/Exercise*

Information Technology Education
Networking & IT Support
> Network Systems
> *Technical Support*
Digital Design & Software Development
> *Database Development & Administration*
> *Digital Media*
> *Programming/Software Development*
> *Web Development & Administration*

Marketing Education
> Marketing Entrepreneurship
> Marketing Management
> Sales & Service Marketing
> Travel & Tourism

Skilled and Technical Sciences Education
Building Trades
> *Carpentry*
> *Electrician*
> *HVAC*
> *Plumbing*
Communication
> *Radio Broadcasting Technician*
> *Television Broadcasting Technician*
Mechanics & Repairs
> *Automotive Collision Repair*
> *Automotive Service Technician*
> *Electronics*
> *Heavy Duty Diesel*
Precision Production Trades
> *Cabinetmaking/Millwork*
> *Design Technology*
> *Graphics/Printing*
> *Machine Tool*
> *Welding*
Personal Service
> *Cosmetology/Barbering*
> *Esthetician/Nail Technician*
Protective Service
> *Firefighting*
> *Law Enforcement*
Transportation & Material Moving
> Aviation Technology
Visual Arts
> *Commercial Art*
> *Commercial Photography*

Technology and Engineering Education
> Pre-Engineering
> Project Lead the Way

One Mission: Student Success

The Utah Agricultural Education Pathways are based on the national skills standards and the national career cluster pathways for agricultural education. By taking Agricultural Education courses, you will learn to value and understand the vital role of agriculture, food, fiber, and natural resources systems in advancing personal and global well-being.

Agriculture is the nation's largest employer, generating approximately 20 percent of our nation's gross national product and 20 percent of our national employment. However, 10 percent of today's professional jobs in agriculture go unfilled because of a lack of qualified graduates. As the demand increases for agricultural products, so does the demand for qualified individuals.

Listed below are the six Pathways in Agricultural Education and a sampling of occupations in each Pathway.

- **Agricultural Systems Technology:** Agricultural Engineering, Diesel Mechanic, Environmental Technician, Machinist, Welder
- **Horticulture Science:** Arborist, Botanist, Forest Geneticist, Plant Breeder and Geneticist, Soil and Water Specialist
- **Natural Resource Science:** Forest Manager or Technician, Mining Engineer, Wildlife Officer
- **Production/Processing Animal Science:** Animal Geneticist, Aquaculturalist, Livestock Inspector, Veterinarian
- **Production/Processing Plant & Soil Science:** Agronomist, Farmer, Irrigation Specialist, Plant Geneticists, Plant Pathologist
- **Production/Processing Science:** Agricultural Economist, Farm/Ranch Manager, Livestock Buyer/Seller, Meat Inspector

" I know of no pursuit in life in which more real and important services can be rendered to any country than by improving its agriculture. . ."

George Washington

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Agricultural Education

Pathway: Agricultural Systems Technology

Get the Facts

Utah agriculturists produce crops and livestock worth over $1.5 billion annually. Students enrolled in high school agricultural courses are looking to join a $1.5- billion industry in Utah and a $300-billion industry nationwide.

Workforce Trends

According to the U.S. Department of Labor, the growing interest in worldwide standardization of agricultural equipment should result in increased employment of agricultural engineers. Job opportunities should also result from the increasing demand for agricultural products, the continued efforts for more efficient agricultural production, and the increasing emphasis on the conservation of resources.

CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
01.0211	Agricultural Systems Technology I	1.00	2.00 credits
01.0221	Agricultural Systems Technology II	1.00	
	Elective Courses:		
01.0111	Agricultural Business Management	1.00	1.00 credit
01.0241	Agricultural Machinery Technology	1.00	
01.0231	Agricultural Mechanics, Advanced	1.00	
01.0311	Agricultural Science I	1.00	
02.0112	Biology-Agricultural Science	1.00	
01.0802	Ag. Communications & Leadership (capstone)	1.00	
21.0707	Industrial/Agricultural Technology (IAT)	1.00	
48.0508	Welding Technician – Entry Level	1.00	
48.0510	Welding Technician – Intermediate Level	1.00	
48.0512	Welding Technician – Advanced Level	1.00	
32.0199	Student Internship (Critical Workplace Skills)	.50	
01.0100	Summer Agriculture Program	.25	
	Supervised Agriculture Experience Program (capstone experience)		

3.00 credits for completion

Agricultural Systems Technology is:
> High skill
> High demand
> Nontraditional for females

Sample Career Occupations
> Agricultural Education Teacher
> Agricultural Engineer
> Agricultural Engineer Technician
> Diesel Mechanic
> Equipment Parts Manager
> Environmental Tech.
> Heavy Equipment Operator
> Machinist
> Recycling Technician
> Welder

Middle School		State Requirements			High School Suggested Education Plan			
7th Grade	8th Grade	Middle School		High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biology–Agricultural Science or Biological Science 1.00	Agricultural Science I 1.00	
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50
							Financial Literacy .50	
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50		
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50			
Keyboarding .50			Computer Tech.	.50	Computer Technology .50			
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.			

College and Career

Beyond High School

There are a number of options for education and training beyond high school, depending on your career goals.
> Certificate
> Associate degree
> Bachelor's degree
> Professional degree
> On-the-job training
> Apprenticeship
> Military training

For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

000101 Revised Jan 13

http://utahcte.org/career/agriculture/agriculture-systems-technology.php

Preparing Students for the World of Business

The Utah Business Education Pathways are based on the national business and finance career cluster pathways. By taking business courses you will learn skills to use in a global marketplace.

As technology in business advances and the complexity of business increases, so does the need for savvy business professionals. Throughout the state of Utah, business professionals are affecting and making significant contributions to the economic development of the state. In fact, professional and business services make up nearly 13 percent of Utah's employment base.

Listed below are the five Pathways in Business Education and a sampling of occupations in each Pathway.

- **Accounting & Finance:** Accountant, Auditor, Tax Examiner, Financial Manager
- **Business Administrative Support:** Administrative Assistant, Information Assistant, Office Manager
- **Business Entrepreneurship:** Inventor, Retail Owner/Operator, Venture Capitalist
- **Business Management:** Business Consultant, Business Manager, Public Relations Manager
- **Business Technology Support:** Desktop Publisher, Executive Assistant, Web Page Designer

"To do a common thing uncommonly well brings success."

Henry John (H.J.) Heinz, Founder of Heinz Ketchup

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Business Education

Pathway: Accounting and Finance

Get the Facts

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.

Workforce Trends

Accountants, those with a CPA, continue to be in demand in both public and private industry audit and tax specialties. Demand is especially high in the tax and health care areas.

Accountants who have a lot of special skills, such as certified public accountants (CPAs) and certified management accountants, should have the easiest time finding a job.

CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
	Choose two of the following courses:		
52.0312	Accounting I	.50	1.00 credit
52.0322	Accounting II	.50	
52.0332	Accounting III *(Honors)*	.50	
52.0342	Accounting IV *(Honors)*	.50	
52.0813	Banking & Finance	.50	
	Elective Courses:		
52.0332	Accounting III	.50	2.00 credits
52.0342	Accounting IV	.50	
52.0511	Business Communication I	.50	
52.0521	Business Communication II	.50	
52.0621	Business Entrepreneurship	.50	
52.0441	Business Law	.50	
52.0211	Business Management	.50	
52.0311	Business Math and Personal Finance	1.00	
52.0419	Computer Technology II	.50	
52.0451	Digital Business Applications	.50	
52.0611	Economics	.50	
08.0211	Leadership Principles	.50	
08.0711	Marketing 1	.50	
08.0301	Marketing Entrepreneurship	.50	
52.0471	Word Processing	.50	
52.0461	Word Processing Basics	.50	
32.0199	Student Internship (Critical Workplace Skills)	.50	3.00 credits for completion

Accounting and Finance is:
> High demand

Sample Career Occupations
> Accountant
> Accounting Clerk
> Auditor
> Bookkeeper
> Business Education Teacher
> Chief Financial Officer
> Loan Officer
> Tax Examiner
> Tax Preparer

Foundation courses taken beyond the required credits can be used as elective credit.

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade →	8th Grade →	Middle School		High School	9th Grade Suggested →	10th Grade Suggested →	11th Grade Suggested →	12th Grade Suggested →	**Beyond High School**
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Business Communication 1.00	There are a number of options for education and training beyond high school, depending on your career goals.
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Accounting 1.00	> Certificate > Associate degree > Bachelor's degree > Professional degree > On-the-job training > Apprenticeship > Military training
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biological Science 1.00	Additional Credit 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
							Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Computer Tech.	.50	Computer Technology .50				
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

005201 Revised Jan 13

http://utahcte.org/career/business/accounting-finance.php

Preparing Students for Family Life, Work Life, and Careers

The Utah Family and Consumer Sciences (FACS) Education Pathways are based on the national skills standards and the national career cluster pathways for FACS. By taking FACS courses, you will obtain the knowledge and skills that will prepare you for independent living and the workforce, which increases personal and community well-being.

FACS education empowers individuals and families throughout their life to manage the challenges of living and working in a diverse, global society. The challenges individuals face throughout their lives include balancing personal, home, family and work lives; acquiring marketable skills to be successful in life management, employment, and career development; promoting optimal nutrition and wellness; and managing resources to meet the material needs of individuals and families.

Listed below are the eight Pathways in FACS Education and a sampling of occupations in each Pathway.

- **Child Development:** Child Care Worker, Social Worker
- **Consumer Economics Services:** Consumer Affairs Director, Credit Counselor, Family Financial Counselor
- **Family & Human Services:** Consumer Economist, Family Counselor, Marriage and Family Therapist
- **Fashion Design, Manufacturing & Merchandising:** Fashion Designer, Fashion Merchandising Manager, Textile Scientist
- **Food Science, Dietetics & Nutrition:** Dietician, Food/Drug Inspector, Nutritionist, Food Scientist
- **Food Services & Culinary Arts:** Caterer, Chef, Food Services Director
- **Hospitality Services:** Hospitality Supervisor, Lodging Manager, Travel Agent
- **Interior Design:** Display Designer, Interior Designer, Set Designer

"Early childhood learning is critical for their long-term success, quality of life and our states competitive edge in attracting world-class jobs."

Jon M. Huntsman, Jr.
Former Governor, State of Utah

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Family and Consumer Sciences

Pathway: Child Development

Get the Facts

In Utah, there are over 110,797 two-parent families with both parents working who have children under the age of six.

Approximately 33 percent of all child care workers are self-employed.

5 percent of workers employed in child care are men.

Workforce Trends

According to Utah Department of Workforce Services, the annual growth rate for child care workers is projected to be 3.4 percent through the year 2020, with employment totaling 16,240. Large concentrations of this occupation are found in the following industries: private households, social services, and educational services both public and private.

CAREER AND TECHNICAL EDUCATION Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
20.0102	Child Development	.50	2.00 credits
20.0201	Early Childhood Education I	1.00	
20.0108	Food & Nutrition I	.50	
	Elective Courses:		
20.0111	Young Parents/Grad *	.50	1.00 credit
20.0112	Human Development	1.00	
20.0118	Food & Nutrition II	.50	
20.0138	Foundations of Nutrition *	.50	
20.0211	Early Childhood Education II *	.50	
20.0212	Early Childhood Internship	.50	
52.0312	Accounting I	.50	
32.0199	Student Internship (Critical Workplace Skills)	.50	
			3.00 credits for completion

* Course can be taken up to 1.00 credit.

Child Development is:
> High skill
> High demand
> Nontraditional for males

Sample Career Occupations
> Administrator, Childcare Program
> Child Care Aide/Worker
> Counseling Psychologist
> Elementary Education
> Family and Consumer Sciences Education Teacher
> Kindergarten Teacher
> Preschool Teacher
> Special Education Teacher
> Social Worker
> Teacher Assistant

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade →	8th Grade →	Middle School		High School	9th Grade Suggested →	10th Grade Suggested →	11th Grade Suggested →	12th Grade Suggested →	**Beyond High School** There are a number of options for education and training beyond high school, depending on your career goals.
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	> Certificate > Associate degree > Bachelor's degree > Professional degree > On-the-job training > Apprenticeship > Military training
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00		
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biological Science 1.00	Additional Credit 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
							Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Computer Tech.	.50	Computer Technology .50				
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

002001 Revised Jan 13

http://utahcte.org/career/family-consumer-sciences/child-development.php

Health Care: Careers That Make a Difference

The Utah Health Science Education Pathways are based on the national health care skills standards and national health science career cluster pathways. Through health science courses, you can gain an important foundation of knowledge and skills necessary for continued education in health sciences.

Health care is one of the largest and fastest-growing industries in the United States, employing over 14 million workers in more than 200 careers. The explosion of technology in health care and an unprecedented aging population contribute to the national health care workforce shortage.

Listed below are the 10 Pathways in Health Science Education and a sampling of occupations in each Pathway.

Biotech Research & Development
- **Biotechnology:** Biochemist, Microbiologist, Toxicologist

Diagnostics
- **Clincial Laboratory and Medical Forensics:** Forensic Pathologist,

Health Informatics
- **Medical Office Administrative Assistant:** Medical Records Technician

Therapeutic Services
- **Dental:** Dental Assistant, Dental Hygientist, Dental Lab Technician
- **Emergency Medical Technician (EMT):** Paramedic, EMT
- **Medical Assistant:** Licensed Practical Nurse, Medical Assistant
- **Nursing:** Certified Nurse Asst., Licensed Practical Nurse, Registered Nurse
- **Pharmacy:** Pharmacy Aide, Pharmacy Technician
- **Surgical Technician:** Surgical Technician
- **Therapeutic Rehabilitation/Exercise:** Physical Therapist Aide

"Nurses serve in the most trusted profession, perhaps because they stand guard while the world sleeps. Their vigilance never stops so patients and their families can rest."

University Health Care

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Health Science Education

Pathway: Therapeutic Services – Nursing

Get the Facts
In the U.S., registered nurses (RNs) hold 2.6 million jobs, making registered nursing the largest health care occupation. About 6 out of 10 RN jobs are in hospitals, in inpatient and outpatient departments.

Nationwide, 5.8 percent of people employed as a registered nurse are men.

Workforce Trends
Health care is the largest and fastest-growing industry in the United States, employing over 10 million workers in more than 200 careers.

CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses
(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)
CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
51.0799	Medical Terminology	.50	1.00 credit
51.1614	Nurse Assistant	.50	
	Elective Courses:		
51.0001	Health Science, Introduction	.50	2.00 credits
51.0810	Emergency Medical Responder	.50	
20.0108	Food & Nutrition I	.50	
20.0118	Food & Nutrition II	.50	
20.0138	Foundations of Nutrition	.50	
51.1199	Health Science, Advanced (capstone course)	1.00	
20.0112	Human Development	1.00	
51.1399	Medical Anatomy & Physiology	1.00	
51.9999	Medical Math	.50	
32.0199	Student Internship (Critical Workplace Skills)	.50	
			3.00 credits for completion

Visit UtahCTE.org to learn how to earn industry certification in this Pathway.

Nursing is:
> High skill
> High demand
> Nontraditional for males

Sample Career Occupations
> Advanced Practice Nurse (APN)
> Certified Nurse Assistant (CNA)
> Certified Nurse Midwife (CNM)
> Certified Registered Nurse Anesthetist (CRNA)
> Health Science Education Teacher
> Licensed Practical Nurse (LPN)
> Medical Assistant
> Registered Nurse (RN)

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade →	8th Grade →	Middle School		High School	9th Grade Suggested →	10th Grade Suggested →	11th Grade Suggested →	12th Grade Suggested →	**Beyond High School** There are a number of options for education and training beyond high school, depending on your career goals.
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	> Certificate
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Medical Math .50	> Associate degree
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biology or Human Biology 1.00	Chemistry 1.00		> Bachelor's degree
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	> Professional degree
							Financial Literacy .50		> On-the-job training
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			> Apprenticeship
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				> Military training
Keyboarding .50			Computer Tech.	.50	Computer Technology .50				For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

005108 Revised Jan 13

http://utahcte.org/career/health-science/nursing.php

Providing the Foundation for Utah's High-Tech Workforce

The Utah Information Technology Education Pathways are based on the national skills standards, where applicable, and established state standards. Through Information Technology (IT) courses you will learn the latest in computer technology with hands-on application.

IT careers involve the design, development, support, and management of hardware, software, multimedia, and systems integration services. The IT industry is a dynamic and entrepreneurial working environment that has a revolutionary impact on the economy and society. In addition to careers in the IT industry, IT careers are available in every sector of the economy—from Financial Service to Medical Services, Business to Engineering and Environmental Services.

Listed below are the six Pathways in Information Technology Education and a sampling of occupations in each Pathway.

Networking & IT Support

- **Network Systems:** LAN Administrator, Network Analyst, Network Engineer, Telecommunication Manager
- **Technical Support:** Computer Operator, Network Control Operator

Digital Design & Software Development

- **Database Development & Administration:** Database Administrator, Database Engineer
- **Digital Media:** 3D Animator, Multimedia Artist/Designer, Product Manager, Web Developer
- **Programming/Software Development:** Computer Programmer, Game Programmer, Software Engineer
- **Web Development & Administration:** Web Administrator, Web Developer, Web Graphic Designer

"The first digital decade has been a great success. This is just the beginning. There's nothing holding us back from going much faster and much further in the second digital decade."

Bill Gates
Founder and Chairman, Microsoft Corp.

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Information Technology Education

Pathway: Digital Media (Multimedia)

Get the Facts
Multimedia programs combine art and technology to present text, images and sound in digital form.

Workforce Trends
Multimedia is the field of the future and is rapidly growing. Because our global economy is driven by technology, multimedia has become one of the most in-demand fields around. With 77.3 percent of Americans using the Internet and over 122 million domains registered worldwide, the demand for individuals skilled in interactive media is high.

CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses
(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)
CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
11.0210	Digital Media I	1.00	2.00 credits
	Choose 1.00 credit from the following courses:		
11.0211	Digital Media II	1.00	
11.0215	3D Graphics	.50	
11.0216	3D Animation	.50	
	Elective Courses:		1.00 credit
11.0101	Information Technology, Introduction	.50	
11.0201	Computer Programming I	1.00	
11.0230	Web Development I	1.00	
52.0254	Business Web Design	.50	
52.0264	Business Web Design, Advanced	.50	
08.0802	Social Media Marketing	.50	
50.0401	Digital and Visual Communications	.50	
50.0407	Basic Digital Photography	.50	
10.0201	Television Broadcasting 1	.50	
32.0199	Student Internship (Critical Workplace Skills)	.50	

Visit UtahCTE.org to learn how to earn industry certification in this Pathway.

3.00 credits for completion

Digital Media is:
> High skill
> High wage
> High demand
> Nontraditional for females

Sample Career Occupations
> 3D Animator
> Information Technology Education Teacher
> Instructional Designer
> Multimedia Artist
> Multimedia Designer
> Multimedia Developer
> Multimedia Engineer
> Product Manager
> Web Administrator
> Web Developer

Foundation courses taken beyond the required credits can be used as elective credit.

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School		High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	**Beyond High School**
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	There are a number of options for education and training beyond high school, depending on your career goals.
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Computer Programming 1.00	> Certificate > Associate degree > Bachelor's degree > Professional degree > On-the-job training > Apprenticeship > Military training
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biological Science 1.00	Additional credit 1.00		
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	
							Financial Literacy .50		
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				
Keyboarding .50			Computer Tech.	.50	Computer Technology .50				
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

001102 Revised Jan 13

http://utahcte.org/career/IT/multimedia.php

Developing Future Leaders in Marketing and Management

The Utah Marketing Education Pathways are based on the national marketing sales and service career cluster pathways. By taking Marketing courses you learn that marketing is the process of developing, promoting, and distributing products.

Marketing is an expansive field that covers industries from advertising to travel and tourism, from retail to sports and entertainment, from real estate to Internet marketing. As people do everything from shopping and dating to trading stock and taking classes on the Internet, eCommerce is only going to get bigger. As a result, the acceleration of the Internet has made marketing a rapidly growing field. It is estimated that worldwide over 30 percent of all workers work in some area of marketing.

Listed below are the four Pathways in Marketing Education and a sampling of occupations in each Pathway.

- **Marketing Entrepreneurship:** Inventor, Retail Owner/Operator, Venture Capitalist
- **Marketing Management:** Advertising Production Manager, Brand Manager, Promotions Manager
- **Sales & Service Marketing:** Merchandise Displayer, Purchasing Agent, Sales Coordinator
- **Travel & Tourism:** Event Planner, Hotel Manager, Travel Agent

"A market is never saturated with a good product, but it is very quickly saturated with a bad one."

Henry Ford
Founder, Ford Motor Co.

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Marketing Education

Pathway: Marketing Management

Get the Facts
According to marketing industry studies, a person's "brand loyalty" may begin as early as age two.

Workforce Trends
Advertising, marketing, promotions, public relations, and sales manager jobs are highly coveted and will be sought by other managers or highly experienced professionals, resulting in keen competition.

College graduates with related experience, a high level of creativity, and strong communication skills should have the best job opportunities. In particular, employers will seek those who have the computer skills to conduct advertising, marketing, promotions, public relations, and sales activities on the Internet.

CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses
(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)
CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
08.0711	Marketing 1	.50	1.00 credit
08.0709	Marketing 2	.50	
	Elective Courses:		
08.9904	Advertising / Promotion	.50	2.00 credits
08.0710	Customer Service	.50	
08.0802	Social Media Marketing	.50	
08.0601	Economics	.50	
08.0301	Marketing Entrepreneurship	.50	
52.0621	Business Entrepreneurship	.50	
08.0101	Fashion Merchandising	.50	
08.0199	Fashion Merchandising, Advanced	.50	
08.0211	Leadership Principles	.50	
08.1701	Real Estate	.50	
08.0705	Retailing	.50	
08.0903	Sports & Entertainment Marketing	.50	
08.0901	Travel & Tourism	.50	
52.0312	Accounting 1	.50	
52.0211	Business Management	.50	
52.0441	Business Law	.50	
32.0199	Student Internship (Critical Workplace Skills)	.50	
			3.00 credits for completion

Marketing Management is:
> High wage
> High demand

Sample Career Occupations
> Advertising Account Executive
> Advertising Production Manager
> Brand Manager
> Marketing Education Teacher
> Marketing Manager
> Market Research Analyst
> Promotions Manager
> Public Relations Account Executive

Middle School		State Requirements			High School Suggested Education Plan				College and Career
7th Grade	8th Grade	Middle School		High School	9th Grade Suggested	10th Grade Suggested	11th Grade Suggested	12th Grade Suggested	**Beyond High School**
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	There are a number of options for education and training beyond high school, depending on your career goals.
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Accounting 1.00	> Certificate
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biological Science 1.00	Additional Credit 1.00		> Associate degree
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50	> Bachelor's degree
							Financial Literacy .50		> Professional degree
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50			> On-the-job training
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50				> Apprenticeship
Keyboarding .50			Computer Tech.	.50	Computer Technology .50				> Military training
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.				For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

000801 Revised Jan 13

http://utahcte.org/career/marketing/marketing-management.php

Build a Skill for Life

The Utah Skilled and Technical Sciences Education Pathways are based on the national skills standards, where applicable, and established state standards.

The major industrial areas of Skilled and Technical Sciences (STS) are construction, manufacturing, transportation, communication, personal services, and protective services. People who work in technical fields are found everywhere. They are the pilots who fly you to your vacation destination and the news anchors who bring you the news. They are the police officers who keep you safe and the auto technicians who use the latest technology to figure out why your car isn't working.

Listed below are the 22 Pathways in Skilled and Technical Sciences Education. For a sampling of occupations in each Pathway visit UtahCTE.org.

Building Trades
- **Carpentry**
- **Electrician**
- **HVAC**
- **Plumbing**

Communication
- **Radio Broadcasting Technician**
- **Television Broadcasting Technician**

Mechanics and Repair
- **Automotive Collision Repair**
- **Automotive Service Technician**
- **Electronics**
- **Heavy Duty Diesel**

Personal Services
- **Cosmetology/Barbering**
- **Esthetician/Nail Technician**

Precision Production Trades
- **Cabinetmaking/Millwork**
- **Drafting/CAD**
- **Graphics/Printing**
- **Machine Tool**
- **Welding**

Protective Services
- **Firefighting**
- **Law Enforcement**

Transportation & Material Moving
- **Aviation Technology**

Visual Arts
- **Commercial Art**
- **Commercial Photography**

"What do you want to BUILD when you grow up? It's a big question. Some people will spend their whole lives searching for the answer. Others will see immediately that the question is the answer. At the end of the day, asking big questions is the only way to achieve big results."

Big-D Construction

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Skilled and Technical Sciences Education

Pathway: Building Trades – Carpentry

Get the Facts

Carpentry is the largest occupation of the constructions trades. Over 32 percent of all carpenters are self-employed.

In Utah, a carpenter must be licensed.

Workforce Trends

As construction continues to increase in the public and private sector demand for skilled carpenters will increase. Those individuals with the proper training and skills will have abundant job opportunities to choose from.

Carpenters who complete a formal apprenticeship program receive certification as journeypersons.

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CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
46.0000	Construction Trades Foundation	.50	1.50 credits
46.0201	Carpentry 1	1.00	
	Elective Courses:		
15.1301	Technical Design 1	.50	1.50 credits
15.1302	Architectural Design 1	.50	
15.1303	Architectural Design 2	.50	
46.0101	Masonry/Tile	1.00	
46.0202	Carpentry 2	1.00	
46.0302	Electrician 1	1.00	
46.0499	Concrete Placing & Finishing	1.00	
46.0501	Plumbing 1	1.00	
48.0701	Woodworking	.50	
48.0702	Furniture Design & Manufacturing	1.00	
48.0703	Cabinetmaking	1.00	
32.0199	Student Internship (Critical Workplace Skills)	.50	

3.00 credits for completion

Carpentry is:
> High skill
> High wage
> High demand
> Nontraditional for females

Sample Career Occupations
> Carpenter
> Carpenter Helper
> Carpentry Teacher
> Construction Laborer
> Construction Manager
> Finish Carpenter
> Foreman

A carpenter is a nontraditional occupation for women. In 2010, 1.4 percent of the people employed in this occupation were women.

Middle School		State Requirements			High School Suggested Education Plan			
7th Grade →	8th Grade →	Middle School		High School	9th Grade Suggested →	10th Grade Suggested →	11th Grade Suggested →	12th Grade Suggested →
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Physics 1.00 or Physics with Technology 1.00	Additional Credit 1.00	
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50
							Financial Literacy .50	
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50		
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50			
Keyboarding .50			Computer Tech.	.50	Computer Technology .50			
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.			

College and Career

Beyond High School

There are a number of options for education and training beyond high school, depending on your career goals.

> Certificate
> Associate degree
> Bachelor's degree
> Professional degree
> On-the-job training
> Apprenticeship
> Military training

For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

009904 Revised Jan 13

http://utahcte.org/career/skilled-technical/carpentry.php

Hands-on, Minds-on Education

The Utah Technology and Engineering Education Pathways are based on the national skills standards, where applicable, and established state standards.

The Utah Pre-Engineering Pathway is a set of four rigorous courses that introduce students to the world of engineering and engineering technology. By taking engineering courses you will learn how to understand, design, produce, use, and manage the human-made world in order to contribute and function in a technological society.

Project Lead the Way is a nationally developed curriculum that puts students through four or five rigorous courses. The courses are designed to give students relevant engineering experiences where they use language arts, math, and science concepts in real-world applications and settings.

Listed below are the two Pathways in Technology and Engineering Education and a sampling of occupations in each Pathway.

- **Pre-Engineering (Utah Pre-Engineering Program):** Civil Engineer, Electrical Engineer, Mechanical Engineer
- **Project Lead the Way (National Pre-Engineering Program):** Civil Engineer, Electrical Engineer, Mechanical Engineer

"There can be little doubt that in many ways the story of bridge building is the story of civilization. By it we can readily measure an important part of a people's progress."

Franklin D. Roosevelt

High School to College and Career Pathway: Secondary

Career and Technical Education: Preparing Students for College and Career!

Area of Study: Technology and Engineering Education

Pathway: Pre-Engineering (Utah Pre-Engineering Program)

Get the Facts

In Utah, an engineer, professional or structural, must be licensed.

Workforce Trends

Due to the expansion of jobs in the technical fields and the increasing numbers of engineers who are retiring, the number of job openings in technology and engineering is increasing. There is a critical shortage of engineers and engineering technologists entering the field at a time when technology is reinventing itself every few years.

CAREER AND TECHNICAL EDUCATION
Recommended Pathway Courses

(Students may select individual courses for exploration, or a complete Pathway for an in-depth focus.)

CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL

Course #	Foundation Courses: (required)	Credit	
21.0115	Engineering Design *(required)*	.50	2.00 credits
21.0114	Pre-Engineering *(required)*	1.00	
	Choose one of the following courses:		
21.0116	Materials & Processes	.50	
21.0117	Robotics & Automation	.50	
	Elective Courses:		
14.3101	Material Science	1.00	1.00 credit
15.0614	Introduction to Bio-Manufacturing	1.00	
21.0112	Advanced Technology	.50	
21.0104	Foundations of Technology	.50	
21.0105	Physics with Technology	1.00	
21.0200	Energy Foundations	.50	
47.0105	Basic Electronics	1.00	
15.1302	Architectural Design 1	.50	
32.0199	Student Internship (Critical Workplace Skills)	.50	

3.00 credits for completion

Pre-Engineering is:
> High skill
> High wage
> High demand
> Nontraditional for females

Sample Career Occupations
> Civil Engineer
> Civil Engineering Technician
> Electrical Engineer
> Technology and Engineering Education Teacher
> Mechanical Engineer
> Mechanical Engineering Technician

Middle School		State Requirements			High School Suggested Education Plan			
7th Grade →	8th Grade →	Middle School		High School	9th Grade Suggested →	10th Grade Suggested →	11th Grade Suggested →	12th Grade Suggested →
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	4.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00
Math * 1.00	Math * 1.00	2.00	Math	3.00	Math * 1.00	Math * 1.00	Math * 1.00	Math * 1.00
Science .50	Science 1.00	1.50	Science	3.00	Earth Systems 1.00	Biology 1.00	Chemistry 1.00	Physics or Physics with Technology 1.00
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	3.00	Geography for Life .50	World Civilizations .50	U.S. History II 1.00	U.S. Government and Citizenship .50
							Financial Literacy .50	
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life .50 / Health Education .50 Lifetime Activities or Sport .50		
The Arts .50	The Arts .50	1.00	Fine Arts	1.50	Fine Arts Courses 1.50			
Keyboarding .50			Computer Tech.	.50	Computer Technology .50			
CTE Intro 1.00		1.00	CTE	1.00	Refer to Career and Technical Education box above.			

College and Career

Beyond High School

There are a number of options for education and training beyond high school, depending on your career goals.
> Certificate
> Associate degree
> Bachelor's degree
> Professional degree
> On-the-job training
> Apprenticeship
> Military training

For more information on salary projections, labor market demand, and training options, visit www.utahfutures.org.

* Talk to your school counselor about math requirements in the core curriculum.
Core curriculum and elective requirements may vary district to district.

Concurrent enrollment course offerings vary by school and district.
Many Utah postsecondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional postsecondary Pathways for details.

002102 Revised Jan 13

http://utahcte.org/career/engineering/ut-pre-engineering.php

Career and Technical Student Organizations (CTSOs) are organizations for individuals enrolled in a CTE program that engages in leadership activities as an integral part of the instructional program. CTSOs present organized activities for students to gain personal and leadership skills, making them more employable, preparing them to become productive citizens, and assisting them in assuming positive roles in the home and community. They are not after-school clubs where only a few CTE students belong, but a powerful instructional tool integrated into the CTE classroom.

DECA—An Association of Marketing Students. DECA is an organization that promotes leadership development, service to the community, and an understanding of the world of work.

FBLA—Future Business Leaders of America. FBLA provides students with opportunities for leadership, community involvement, business partnerships, and competition with other students in events ranging from Public Speaking to Job Interview to Parliamentary Procedures.

FCCLA—Family, Career and Community Leaders of America. FCCLA provides students with opportunities to attain knowledge, skills, and leadership characteristics necessary to succeed in life, as well as promoting personal growth and leadership development.

FFA—The Organization for Agricultural Education Students. FFA is dedicated to making a positive difference in the lives of young people by developing their potential for premier leadership, personal growth, and career success through Agricultural Education.

In addition to offering a wide variety of specific career and technical training, CTE integrates student leadership elements that complement student participation in the CTE courses, programs, and Pathways. Participation in CTSOs as part of CTE Pathways will enhance your learning, awareness of education and career opportunities, and employability skills.

HOSA—Health Occupations Students of America. HOSA provides students with opportunities to attain the knowledge, skills and leadership characteristics necessary to succeed in a health care profession, through leadership training, career training, and service projects.

SkillsUSA—Skilled and Technical Sciences Student Organization. SkillsUSA provides quality education experiences for students in leadership, teamwork, citizenship, and character development.

TSA—Technology Student Association. TSA is the only student organization dedicated exclusively to students enrolled in technology education classes in grades K-12. Students participate in chapter fundraising activities and community service projects. Leadership training is offered to student officers at the local, state, and national levels.

"FFA gave me a place to belong. As a freshman, my teacher encouraged me to set goals which helped me to establish a direction for my life."

Tiffany Clegg
North Summit High School

Agricultural Education

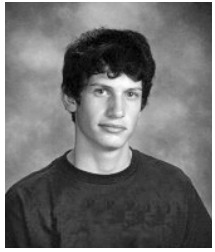
"The welding and agricultural classes I took in high school gave me the needed skills to be successful in my career and in all aspects of life."

Erica McPherson
Delta High School

Business Education

"After taking a business management class I discovered what I wanted to study in college and what career I wanted to pursue. CTE helped me focus my energy and realize that business management is what I want to do for the rest of my life."

David Moshe Wright
Riverton High School



Family and Consumer Sciences Education

"The Family and Consumer Sciences classes taught me important life skills and things I would need to know to be a parent and a responsible adult."

Brianna Schow
Copper Hills High School

Health Science Education

"I have always wanted to be a nurse. Through the anatomy and physiology classes I took in high school I learned a lot about the human body. The hands-on experience I had at the x-ray clinic during my internship taught me so much more about the human body. I am excited to get on with my nursing career and learn even more."

Raychel Long
Spanish Fork High School

Information Technology Education

"Information Technology taught me the highly structured and analytical ideas behind program language. The programming class further developed my sense of logistical reason. I can now see problems from a rigorous analytical point of view."

Erick Chen
West High School

Marketing Education

"Through CTE I learned how to market creatively and how quality and customer service are very important to having a good business."

Natalie Tucker
Alta High School

Skilled and Technical Sciences Education

"The cabinetmaking classes I took in CTE taught me to be hardworking and to finish what I start. Through CTE I learned important life skills as well as integrity in the shop and classroom."

John Hoang
Taylorsville High School

Technology and Engineering Education

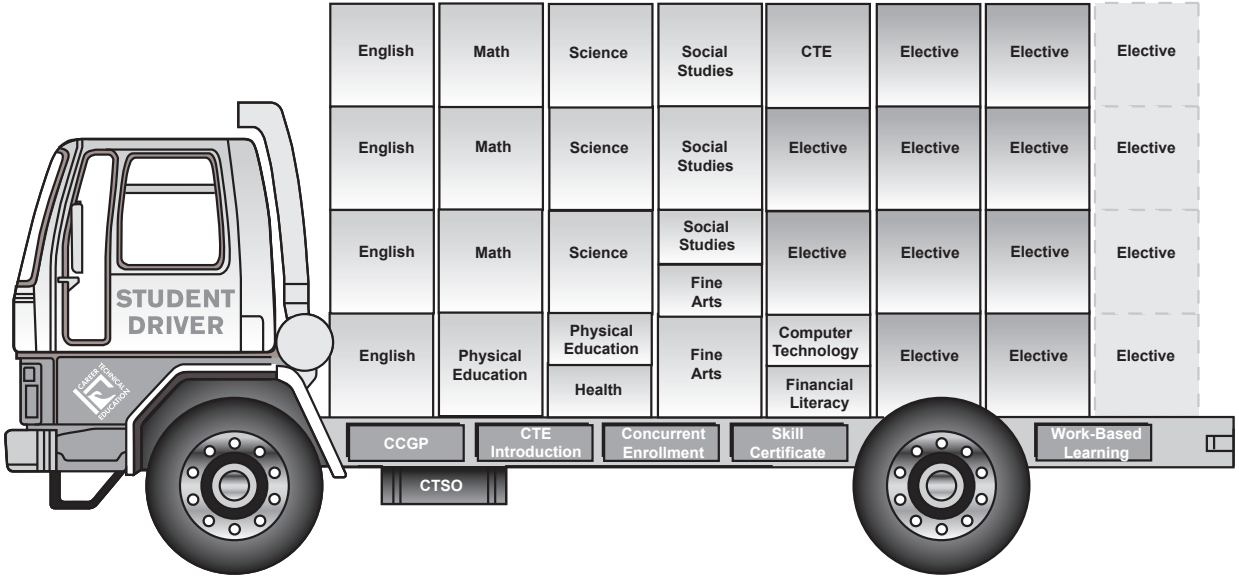
"Career and Technical Education classes gave me the advantage of knowledge and experience for my future career in engineering."

Alex Schmall
Provo High School

Career	A course of events that constitute a life.
Career and Technical Education (CTE)	Classes and programs designed to prepare high school students for post-secondary education, and to help workers acquire job skills in new fields or refresh skills for career advancement.
Career and Technical Student Organizations (CTSOs)	An organization for individuals enrolled in a Career and Technical Education programs that engages in leadership activities as an integral part of the instructional program.
Career awareness	Developing an inventory of one's knowledge, values and preferences.
Career decision making	The process of choice, entry, and adjustment related to one's career (all events that constitute a life).
Career development	The process of building the inventory of one's knowledge, values and preferences.
Career Pathway	Coherent groupings of courses that offer students depth of knowledge and skill and are typically linked with specific post-secondary programs culminating with degrees or certificates.
College and Career Plan	A Utah-specific format for individualized student planning that focuses on recognizing student accomplishments and strengths and student and parent/guardian planning, monitoring, and managing education and career development in grades 7-12.
Concurrent enrollment	A college class usually taught at the high school. Students earn both high school graduation and college credit (concurrent credit) upon successful completion.
Elective courses	Courses that students can choose to take; individual courses not specifically required for graduation.
Industry	A collection of employers grouped according to product, service, or process.

Job	A position with specific duties and responsibilities in a particular workplace.
Nontraditional career	An occupation in which women or men comprise 25 percent or less of its total employment.
Occupation	A group of jobs with common characteristics that require similar skills but are found in a variety of industries and organizations.
Pathway courses	CTE courses suggested to augment the regular high school program of study for students interested in a specific career major or occupational area.
Postsecondary education	Education beyond high school; generally thought of in terms of college or university attendance, but can include any training beyond high school such as certificate or licensure programs, or apprenticeships.
Skill	An attribute required of a worker in order to complete a specific work task.
Skill Certificate	Utah's Skill Certificate program provides students with an opportunity to receive instruction aligned with standards and objectives set by the state of Utah and industry. Students receive a skill certificate verifying achievement.
UtahFutures	Utah's state-sponsored career information system, accessible to all Utah residents at UtahFutures.org.
Work-Based Learning	Work-Based Learning refers to educational experiences that occur in cooperation with business/industry and other community partners. Examples include apprenticeships, career fairs, clinical work experiences, job shadows, school-based enterprises, and student internships.

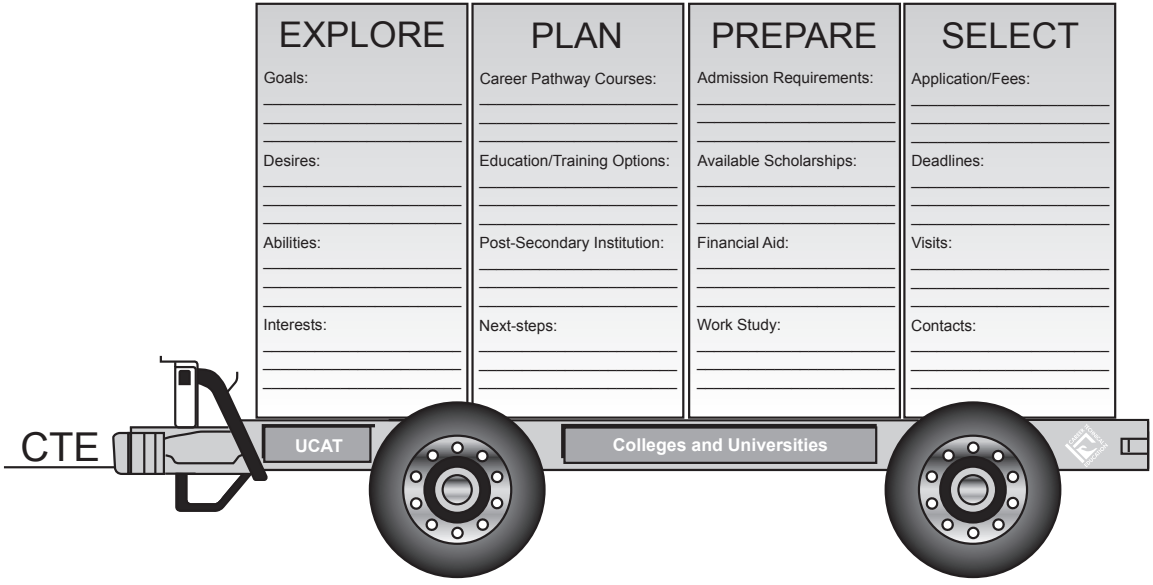
YOU are in the driver's seat when it comes to planning what classes to take in high school. Talk to your parents and school counselor about your interests while developing your College and Career Plan. Your school counselor will give you direction and guidance in fulfilling the states graduation requirements and choosing electives that correspond to your interest area and CTE Pathway. Pathways provide you with the opportunity to acquire the depth of knowledge and skill linked with specific postsecondary programs culminating in a degree or certificate. So load up your truck today!



Student graduation requirements—core curriculum and electives—may vary by district. Check with your school counselor for your districts' requirements.

CTE Trailer

As you complete your four-year plan, choose courses from a variety of programs offered by your school that meet your graduation requirements as well as the entrance requirements for Utah's postsecondary institutions. As you prepare for life after high school, it is important that you explore programs, plan your next steps, and select which school best fits your needs. Once you have narrowed down your options, apply to the postsecondary institution(s) where you want to continue your education. Remember, CTE is *your* connection to postsecondary education!



Match Your Classroom Skills to Your Career!

YOU are developing skills in your class work that may lead to exciting career opportunities. UtahFutures.org is a web-based career information system that will help you match these skills to a career.

Step 1: Rank each of the required subjects below from 1 to 6, with one being your favorite and six being your least favorite.

_____English _____Math _____Science _____History _____Electives _____Physical Education

Step 2: Take your number one choice above and match it to the subject headings in the transferable skills box below. Look at the required skills for the occupations you selected.

English	Math	Science	History	Electives/PE
> Reading > Listening	> Analyzing > Budgeting	> Analyzing > Attn. to detail	> Analyzing > Writing	> Active learning > Listening
> Speaking > Writing	> Calculating > Attn. to detail	> Following procedures	> Reading > Info. gathering	> Team work > Estimating
> Social perception	> Decision making	> Science reasoning	> Decision making	> Motor coordination

Step 3: Log on to UtahFutures.org and explore which skills, job duties, and education are required for the careers that best match your transferable skills. Fill in the table below with three careers and list the skills and education required for each.

Top Three Occupations of Interest	Skills Required	Education Required
1.		
2.		
3.		

Step 4: Discuss your findings with your parents and school counselor at your next College and Career Plan to develop or revise your high school four-year-plus plan.

Your Career Is the Trip of a Lifetime:
GET DIRECTIONS!

Post-secondary pathways ease the transition from high school to college and career by effectively connecting high school programs of study to related certificate or degree programs offered through Utah's post-secondary institutions. The close coordination between high schools and higher education helps to ensure that students have the skills necessary to succeed, while minimizing the duplication of coursework.

School counselors can help you find the CTE Pathways and connected post-secondary Pathways that are offered in your region and around the state. The CTE Pathways introduced in this book reflect the courses recommended for students in grades 7-12. By following a CTE Pathway in high school, students achieve a solid foundation on which to build a post-secondary program. The specific Pathways available in a high school or post-secondary institution will vary. For example, there may be two post-secondary pathways tied to the "Automotive Service Technician" in a region where there is a campus of the Utah College of Applied Technology (UCAT) and a community college that offers training in Automotive Services. In contrast, there may be no post-secondary program available connected to the "Firefighting" Pathway, given the limited number of post-secondary schools that offer related training. **Ask about concurrent enrollment options.** Concurrent enrollment courses are typically college courses that are taught on a high school campus. Credits are fully transferable to public colleges and universities in Utah, and many post-secondary schools in other states. Concurrent enrollment saves time and money, enhancing both admission to and retention in college, and increasing the likelihood of timely graduation from college.

Get a head start on your post-secondary education. Utah colleges are partnering with high schools to identify specific high school courses that could be accepted for credit at their institutions. The courses that meet these high standards are carefully defined in an "articulation agreement" between the cooperating college and high school. Check with your school counselor for details.

Don't forget to explore other post-secondary options that may be more suited to your personal circumstances and goals. There are a number of occupations for which apprenticeship is the preferred training route. Other occupations favor those with a certificate and/or on-the-job training.

Information is readily available. You can find out the occupations needed in a regional labor market, and discover the associated training and qualifications by accessing a variety of online resources. (Start with www.UtahCTE.org.) Defining both short-term and long-term career goals will help you find the post-secondary education and training best suited to your personal characteristics.

CAREER TECHNICAL EDUCATION

Developing a detailed education plan (i.e., Pathway) will ease the transition from high school to college and career. Completing a CTE Pathway gives you a strong foundation to succeed in college and beyond.

High School to College and Career Pathways

COOL DESTINATIONS

Welcome to Career Pathways! A Pathway is a method of searching for a career that fits your interests and lifestyle and then allows you to build academic courses around it. The Pathway recommends individual high school courses – both academic and career-related – to concentrate on, which are specifically geared toward your chosen career. All of this planning starts as early as middle/junior high school and continues as you advance through high school.

The Map

What direction should you take?
Your school counselor will help you plan your high school coursework map as part of your Student Education Occupation Plan (SEOP). The courses of study will give you options for entering the world of work while continuing your education. So, are you prepared with your own map?

Ask Yourself

What –
- Do I want to be doing in 5 years?
- Should I take to get ready for college?
- Are the new graduation requirements?

Why –
- Should I take this class?
- Should I plan?
- Should I study?

How –
- Can Pathways help me?
- Do I find the options that are right for me?
- Do I find a satisfying career?

Utah State Office of Education
250 East 500 South • P.O. Box 144200
Salt Lake City, UT 84114-4200

The Road

Gaining independence, moving on and finding a career – that is what you can expect once you leave high school. The trick is to jump-start your future and plan for life after high school before graduation. But how can you do that?

Career and Technical Education
Giving Students the Edge

The Journey

On your mark, get set…
You will find that Pathways will increase your interest and achievement by helping to make connections between what you are learning in school and your future opportunities. More resources to help you pave your path can be found at www.utahfutures.org and www.utahcte.org.