# Utah Career and Technical Education
# Career Pathway Chart
## 2023-2024 School Year

**Cybersecurity**
CAREER PATHWAY
Computer Science & Information Technology
CAREER CLUSTER

## Career Cluster: Computer Science & Information Technology

# Career Pathway: Cybersecurity

| JUNIOR HIGH / MIDDLE SCHOOL | |
| --- | --- |
| College and Career Awareness | |
| Computer Science Investigations | Python 1, Intro |
| Creative Coding | Python 2, Intro |

| HIGH SCHOOL | | |
| --- | --- | --- |
| **SUPPORTING COURSES:** Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Pathway) | | |
| Current Issues | Math 1050 | Secondary Math 3 |
| Law Enforcement * | Secondary Math 2 | |
| **EXPLORER COURSES**: Choose one or more of the following courses. | | |
| AP Computer Science Principles | Database Development * | Linux Fundamentals * |
| Computer Programming 1 * | Exploring Computer Science | Network Fundamentals * |
| Computer Science Principles * | Information Technology, Intro * | Web Development 1 * |
| **CONCENTRATOR COURSES:** To be a concentrator you must pass one of the following courses AND one explorer course. | | |
| Principles of Cyber Defense and Ethics * | | |
| **COMPLETER COURSES:** To be a completer you must pass a concentrator course and enough courses to equal 3.0 credits in this Pathway. | | |
| Cyber Forensics * | | |
| CTE Internship | Apprenticeship | |
| **POSTSECONDARY:** There are many options for education and training beyond high school. | | |
| Utah System of Higher Education: ushe.edu (Utah's public colleges and universities) | UtahMajors.org: Majors Guide | |

**\* concurrent enrollment course   + recommended explorer course**

## HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING
There are several options for education and training beyond high school, depending on your career goals.

| COLLEGE 24 or more | 1-2 Year Certificate | 2-Year Associate Degree | 4-Year Bachelor's Degree |
| --- | --- | --- | --- |
| | > Computer Technician<br>> Cybersecurity Operations<br>> Security Specialist | > Computer Network Support<br>> Cybersecurity Technical Writer<br>> Security Architect<br>> Vulnerability Analysis | > CTE Teacher<br>> Computer and Information Systems Manager<br>> Security App. Programmer<br>> Security Engineer |

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value. Credentials of Value

Utah CTE classes are open to all qualified students without regard to race, color, national origin, sex, disability, or age.

## Student Testimonial

"**I have developed so many skills** and have acquired so much knowledge needed for a computer programming career. Learning the basics of coding at an early age will help me to have a strong foundation. I will be able to excel in advanced programming and master difficult concepts with much more ease."

Shawn Allen
Future Computer Programmer

## LEARN MORE ABOUT OCCUPATIONS AND WAGES

**Computer Science & Information Technology**

UtahCTE.org: Fact Sheet

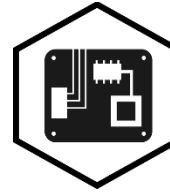Department of Workforce Services
Utah Occupational Explorer

# FBLA | SkillsUSA | TSA

are the Career and Technical Student Organizations (CTSO) for students in Cybersecurity Career Pathway.

FBLA-PBL.org | SkillsUSA.org | TSAweb.org

Utah-FBLA-PBL.org | UtahSkillsUSA.org | UtahTSA.org

Utah FBLA flyer | SkillsUSA flyer | Utah TSA flyer

CTE® Learning that works for Utah

**Utah Career and Technical Education
Career Pathway Chart**
**2023-2024 School Year**

**Information Technology Systems
CAREER PATHWAY**
Computer Science & Information Technology
CAREER CLUSTER

## Career Cluster: Computer Science & Information Technology

# Career Pathway: Information Technology Systems

| JUNIOR HIGH / MIDDLE SCHOOL | |
|---|---|
| College and Career Awareness | |
| Computer Science Investigations | Python 1, Intro |
| Creative Coding | Python 2, Intro |

| HIGH SCHOOL | | |
|---|---|---|
| **SUPPORTING COURSES:** Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Pathway) | | |
| Math 1050 | Secondary Math 2 | Secondary Math 3 |
| **EXPLORER COURSES**: Choose one or more of the following courses. | | |
| AP Computer Science Principles | Exploring Computer Science | Robotics 1 |
| Computer Programming 1 * | Information Technology, Intro * | Robotics Technology |
| Computer Science Principles * | Linux Fundamentals * | Web Development 1 * |
| Database Development * | Network Fundamentals * | |
| **CONCENTRATOR COURSES:** To be a concentrator you must pass the following course AND one explorer course. | | |
| Computer Systems 1 | Cloud Computing 1 | Geographical Information Systems, Intro |
| **COMPLETER COURSES:** To be a completer you must pass a concentrator course and enough courses to equal 3.0 credits in this Pathway. | | |
| Computer Systems 2 | Cloud Computing 2 | Geographic Information Systems Remote Sensing * |
| CTE Internship | Apprenticeship | |
| **POSTSECONDARY:** There are many options for education and training beyond high school. | | |
| Utah System of Higher Education: ushe.edu (Utah's public colleges and universities) | UtahMajors.org: Majors Guide | |

**\* concurrent enrollment course   + recommended explorer course**

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING
There are several options for education and training beyond high school, depending on your career goals.

COLLEGE 24 or more

| 1-2 Year **Certificate** | 2-Year **Associate Degree** | 4-Year **Bachelor's Degree** |
|---|---|---|
| > Computer Service Technician | > Computer Network Technician | > CTE Teacher |
| > Data Center Technician | > Computer Systems Manager | > Computer and Information Systems Manager |
| > Service Desk Analyst | > Database Administrator | > Computer Network Architect |
| | > IT Coordinator | > Network Engineer |

Career and Technical Education provides all students access to high-quality, rigorous career-focused programs that result in attainment of credentials with labor market value. Credentials of Value

Utah CTE classes are open to all qualified students without regard to race, color, national origin, sex, disability, or age.

## Student Testimonial

**"This program helped me earn many industry-level certifications** including CompTIA, IT Strata Fundamentals, IC3, Microsoft Technical Associate (MIT), OS Fundamentals, and Security and Academy of Information Technology certifications."

Parker Kingsford
Future Computer Engineer

## LEARN MORE ABOUT OCCUPATIONS AND WAGES

**Computer Science & Information Technology**

UtahCTE.org: Fact Sheet

Department of Workforce Services
Utah Occupational Explorer

# FBLA | SkillsUSA | TSA

are the Career and Technical Student Organizations (CTSO) for students in Information Technology Systems Career Pathway.

FBLA-PBL.org | SkillsUSA.org | TSAweb.org

Utah-FBLA-PBL.org | UtahSkillsUSA.org | UtahTSA.org

Utah FBLA flyer | SkillsUSA flyer | Utah TSA flyer

# Utah Career and Technical Education
# Career Pathway Chart
## 2023-2024 School Year

**Programming & Software Development**
CAREER PATHWAY
___
Computer Science & Information Technology
CAREER CLUSTER

## Career Cluster: Computer Science & Information Technology

# Career Pathway: Programming & Software Development

| JUNIOR HIGH / MIDDLE SCHOOL | |
|---|---|
| College and Career Awareness | |
| Computer Science Investigations | Python 1, Intro |
| Creative Coding | Python 2, Intro |
| Digital Literacy | |

| HIGH SCHOOL | | |
|---|---|---|
| **SUPPORTING COURSES:** Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Pathway) | | |
| Business Leadership 1 * | Physics | Secondary Math 3 |
| Math 1050 | Secondary Math 2 | |
| **EXPLORER COURSES**: Choose one or more of the following courses. | | |
| AP Computer Science Principles | Robotics 1 | Robotics Technology |
| Computer Programming 1 * | Mobile Development Fundamentals | |
| Computer Science Principles * | Exploring Computer Science | Information Technology, Intro |
| **CONCENTRATOR COURSES:** To be a concentrator you must pass one of the following courses AND one explorer course. | | |
| Computer Programming 2 * | Database Development * | Game Development Fundamentals 1 |
| **COMPLETER COURSES:** To be a completer you must pass a concentrator course and enough courses to equal 3.0 credits in this Pathway. | | |
| AP Computer Science | | Computer Programming, Advanced * |
| Algorithms and Data Structures * | | Game Development Fundamentals 2 |
| CTE Internship | | Apprenticeship |
| **POSTSECONDARY:** There are many options for education and training beyond high school. | | |
| Utah System of Higher Education: ushe.edu (Utah's public colleges and universities) | | UtahMajors.org: Majors Guide |

**\* concurrent enrollment course   + recommended explorer course**

## HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING
There are several options for education and training beyond high school, depending on your career goals.

| COLLEGE 24 or more | 1-2 Year Certificate | 2-Year Associate Degree | 4-Year Bachelor's Degree |
|---|---|---|---|
| | > Entry Level Programmer | > Computer Systems Analyst<br>> Game Play Programmer<br>> Software Developer | > CTE Teacher<br>> Software Engineer<br>> Sys Software Programmer |

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Utah CTE classes are open to all qualified students without regard to race, color, national origin, sex, disability, or age.

## Student Testimonial

**"CTE courses have set the course of my life.** I was planning on doing something computer related and taking CTE courses have led me to understand what I am confident about, what I enjoy doing, and what possible careers I could go into."

James Cox
Future IT Developer

## LEARN MORE ABOUT OCCUPATIONS AND WAGES

**Computer Science & Information Technology**

UtahCTE.org: Fact Sheet

Department of Workforce Services
Utah Occupational Explorer

## FBLA |SkillsUSA | TSA

are the Career and Technical Student Organizations (CTSO) for students in the Programming & Software Development Career Pathway.

FBLA-PBL.org | SkillsUSA.org | TSAweb.org
Utah-FBLA-PBL.org | UtahSkillsUSA.org | UtahTSA.org

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# Utah Career and Technical Education
## Career Pathway Chart
### 2023-2024 School Year

**Web Development**
CAREER PATHWAY

**Computer Science & Information Technology**
CAREER CLUSTER

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## Career Cluster: Computer Science & Information Technology

# Career Pathway: Web Development

| JUNIOR HIGH / MIDDLE SCHOOL | |
|---|---|
| College and Career Awareness | |
| Computer Science Investigations | Python 1, Intro |
| Creative Coding | Python 2, Intro |

**SUPPORTING COURSES:** Suggested high school courses that support the Career Pathway (Courses DO NOT count towards the Pathway)

| | | |
|---|---|---|
| Business Leadership 1 * | Secondary Math 2 | World Civilization |
| Math 1050 | Secondary Math 3 | World Geography |

**EXPLORER COURSES**: Choose one or more of the following courses.

| | | | |
|---|---|---|---|
| Computer Science Principles * | Digital Media 1 * | Exploring Computer Science | Web Development 1 * |
| Database Development * | Entrepreneurship * | Information Technology, Intro * | |

**CONCENTRATOR COURSES:** To be a concentrator you must pass one of the following courses AND one explorer course.

| | |
|---|---|
| | Web Development 2 |

**COMPLETER COURSES**: To be a completer you must pass a concentrator course and enough courses to equal 3.0 credits in this Pathway.

| | |
|---|---|
| UX/UI and Quality Assurances | Web Development Projects * |
| Web Development, Advanced | |
| CTE Internship | Apprenticeship |

**POSTSECONDARY:** There are many options for education and training beyond high school.

| | |
|---|---|
| Utah System of Higher Education: ushe.edu (Utah's public colleges and universities) | UtahMajors.org: Majors Guide |

**\* concurrent enrollment course   + recommended explorer course**

### HIGH SCHOOL TO POSTSECONDARY EDUCATION AND TRAINING
There are several options for education and training beyond high school, depending on your career goals.

COLLEGE 24 or more

| 1-2 Year Certificate | 2-Year Associate Degree | 4-Year Bachelor's Degree |
|---|---|---|
| > Graphic Artist<br>> Web Analyst<br>> Web Technician | > Web Developer | > CTE Teacher<br>> Full Stack Developer<br>> UI/UX Designer |

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## Student Testimonial

"**My goal is** to go to Utah Valley University and obtain an associate degree in computer technology with the focus on Web design. CTE courses have provided experience in several areas that would not be available without CTE."

Zachary Crocker
Future Web Developer

## LEARN MORE ABOUT OCCUPATIONS AND WAGES

**Computer Science & Information Technology**

UtahCTE.org: Fact Sheet

Department of Workforce Services
Utah Occupational Explorer

## FBLA | SkillsUSA | TSA

are the Career and Technical Student Organizations (CTSO) for students in the Web Development Career Pathway.

FBLA-PBL.org | SkillsUSA.org | TSAweb.org
Utah-FBLA-PBL.org | UtahSkillsUSA.org | UtahTSA.org
Utah FBLA flyer | SkillsUSA flyer | Utah TSA flyer

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