

Cybersecurity CAREER PATHWAY

Computer Science & Information Technology CAREER CLUSTER

Career Cluster: Computer Science & Information Technology

Career Pathway: Cybersecurity

| JUNIOR HIGH / MIDDLE SCHO | OL | | | |
|---------------------------------|--|--|------------------------|--|
| College and Career Awareness | | | | |
| Computer Science Investigations | 3 | Python 1, Intro | | |
| Creative Coding | | Python 2, Intro | | |
| HIGH SCHOOL | | | | |
| SUPPORTING COURSES: Sugg | gested high school courses that sup | port the Career Pathway (C | ourses DO NO | T count towards the Pathway) |
| Current Issues | Math 1050 | | Secondary Ma | ath 3 |
| _aw Enforcement * | Secondary Math 2 | | | |
| XPLORER COURSES: Choose | one or more of the following course | es. | | |
| Computer Programming 1 * | Exploring Computer | Science | Web Develop | ment 1 * |
| Computer Science Principles * | Information Technol | ogy, Intro * | | |
| Database Development * | Linux Fundamentals | ;* | | |
| CONCENTRATOR COURSES: | To be a concentrator you must pass | one of the following course | es AND one ex | plorer course. |
| Principles of Cyber Defense and | Ethics * | | | |
| COMPLETER COURSES: To be | a completer you must pass a conc | entrator course and enough | courses to ec | ual 3.0 credits in this Pathwa |
| Cybersecurity Forensics * | | | | |
| CTE Internship | | Apprenticeship | | |
| POSTSECONDARY: There are I | many options for education and trai | ning beyond high school. | | |
| Jtah System of Higher Educatior | n: <u>ushe.edu</u> (Utah's public colleges a | and universities) | UtahMajors.or | g: <u>Majors Guide</u> |
| concurrent enrollment course | + recommended explorer cours | e | • | • |
| | · · · | | | |
| HIGH SCH | OOL TO POSTSECON | DARY EDUCATIC | on and I | RAINING |
| There are several opt | tions for education and training | g beyond high school, c | lepending o | n your career goals. |
| | 1-2 Year | 2-Year | | 4-Year |
| 5 more | Certificate | Associate Deg | ree | Bachelor's Degree |
| | Computer Technician Cybersecurity Operations Security Specialist | > Computer Network Su > Cybersecurity Technic > Security Architect > Vulnerability Analysis | pport > al Writer > | CTE Teacher Computer and Information Systems Manager Security App. Programmer |

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

Student Testimonial

"Getting a degree will help me to pursue my goal of working as a computer programmer at a large company. CTE classes prepared me by showing me what I would actually be doing in the different job fields and how I would apply the information that I learned in class."

> Aaron Montoya Jordan High School

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 Cybersecurity Career Pathway.

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

112005-KY

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Information Technology Systems CAREER PATHWAY

Computer Science & Information Technology

Career Cluster: Computer Science & Information Technology

Career Pathway: Information Technology Systems

| JUNIOR HIGH / MIDDLE SCHO | OL | | | |
|-------------------------------------|--|---|---|--|
| College and Career Awareness | | | | |
| Computer Science Investigations | | Python 1, Intro | | |
| Creative Coding | | Python 2, Intro | | |
| HIGH SCHOOL | | | | |
| SUPPORTING COURSES: Sugg | gested high school courses that supp | ort the Career Pathway (Courses D | ONOT count towards the Pathway) | |
| Math 1050 | Secondary Math 2 | Secondary | Math 3 | |
| EXPLORER COURSES: Choose | one or more of the following courses | S. | | |
| Exploring Computer Science | Network Fundamentals * | · | | |
| Computer Programming 1 * | Information Technology, | Intro * Web Develo | pment 1 * | |
| Computer Science Principles 1 * | | | | |
| Database Development * | Robotics 1 | Robotics Te | chnology | |
| CONCENTRATOR COURSES: | To be a concentrator you must pass | the following course AND one explo | rer course. | |
| Computer Systems 1 | Cloud Computing 1 | Geographic | Geographical Information Systems, Intro | |
| COMPLETER COURSES: To be | a completer you must pass a conce | ntrator course and enough courses | to equal 3.0 credits in this Pathway. | |
| Computer Systems 2 | Cloud Computing 2 | Geographic | Geographic Information Systems Remote Sensing * | |
| CTE Internship | | Apprenticeship | | |
| POSTSECONDARY: There are | many options for education and traini | ing beyond high school. | | |
| Utah System of Higher Education: us | <u>ne.edu</u> (Utah's public colleges and univers | sities) UtahMajors | org: <u>Majors Guide</u> | |
| * concurrent enrollment course | + recommended explorer course | | | |
| | OOL TO POSTSECONI | | | |
| B 2 or more | 1-2 Year Certificate | 2-Year Associate Degree | 4-Year Bachelor's Degree | |
| COLLE | > Computer Service Technician > Data Center Technician > Service Desk Analyst | Computer Network Technician Computer Systems Manager Database Administrator IT Coordinator | > CTE Teacher > Computer and Information Systems Manager > Computer Network Architect > 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. <u>Credentials of Value</u>

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 West Jordan High School

LEARN MORE ABOUT OCCUPATIONS AND WAGES

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 FBLA-PBL.org
 SkillsUSA.org
 TSAweb.org

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

 UtahTSA.org
 UtahTSA.org
 UtahTSA.org

 Utah FBLA flyer
 SkillsUSA flyer
 Utah TSA flyer

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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 so | chool courses that suppo | ort 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 F | undamentals | |
| Computer Science Principles * | Exploring Computer S | cience | Information Technology, Intro |
| CONCENTRATOR COURSES: To be a conce | entrator you must pass o | ne of the following cours | ses AND one explorer course. |
| Computer Programming 2 * | Database Developmer | nt * | Game Development Fundamentals 1 |
| COMPLETER COURSES: To be a completer | you must pass a concer | trator course and enoug | h courses to equal 3.0 credits in this Pathway. |
| AP Computer Science | | Computer Programmir | ng, Advanced * |
| Algorithms and Data Structures * | | Game Development F | undamentals 2 |
| CTE Internship | | Apprenticeship | |
| POSTSECONDARY: There are many options | for education and trainin | ng beyond high school. | |
| Utah System of Higher Education: ushe.edu (U | Jtah's public colleges an | d 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.

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

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. <u>Credentials of Value</u>

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

Student Testimonial

"My goal is to become a video game designer or programmer. The classes I took in high school taught me how to use the programs that I would be pursuing in my career field and have given me a taste of what programming and design are like."

> Jenny Whitecar Syracuse High School

LEARN MORE ABOUT OCCUPATIONS AND WAGES

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FBLA |SkillsUSA | TSA

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

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Web Development CAREER PATHWAY

Computer Science & Information Technology AREER CLUSTER

| JUNIOR HIGH / MIDDLE SCHOOL College and Career Awareness Computer Science Investigations Creative Coding | | Python 1, Intro | |
|---|---|---|---|
| Computer Science Investigations Creative Coding | | Python 1. Intro | |
| Creative Coding | | | |
| | | Python 2, Intro | |
| | | | |
| SUPPORTING COURSES: Suddested | l high school courses that su | pport the Career Pathway (Courses | DO NOT count towards the Pathway) |
| Business Leadership 1 * | Secondary Math 2 | | Civilization |
| Math 1050 | Secondary Math 3 | | Geography |
| EXPLORER COURSES: Choose one of | or more of the following cours | ses. | |
| Computer Science Principles * Dig | gital Media 1 * | Exploring Computer Science | Web Development 1 * |
| Database Development * En | trepreneurship * | urship * Information Technology, Intro * | |
| CONCENTRATOR COURSES: To be | a concentrator you must pas | s one of the following courses ANE | one explorer course. |
| ITML 5 Application Development Func | damentals * | | |
| Veb Development 2 | | | |
| COMPLETER COURSES: To be a con | mpleter you must pass a con | centrator course and enough cours | es to equal 3.0 credits in this Pathway |
| UX/UI and Quality Assurances | | | |
| Web Development Capstone | | | |
| Teb Berelepinent eupetene | | | |
| CTE Internship | | Apprenticeship | |
| • • | options for education and tra | | |
| CTE Internship POSTSECONDARY: There are many of | | ining beyond high school. | ajors.org: <u>Majors Guide</u> |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> | e.edu (Utah's public colleges | ining beyond high school. and universities) UtahM | ajors.org: <u>Majors Guide</u> |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> concurrent enrollment course + reo | e.edu (Utah's public colleges commended explorer cour | ining beyond high school. and universities) UtahM se | · · · · · · · · · · · · · · · · · · · |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: ushe concurrent enrollment course + reo | e.edu (Utah's public colleges commended explorer cour | ining beyond high school. and universities) UtahM | · · · · · · · · · · · · · · · · · · · |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> concurrent enrollment course + red HIGH SCHOOI | e <u>.edu</u> (Utah's public colleges commended explorer cour | ining beyond high school. and universities) UtahM se | ND TRAINING |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> concurrent enrollment course + rec HIGH SCHOOI There are several options | e.edu (Utah's public colleges commended explorer cour L TO POSTSECON for education and trainir | ining beyond high school. and universities) UtahM se IDARY EDUCATION A ng beyond high school, depen | ND TRAINING ding on your career goals. |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> concurrent enrollment course + red HIGH SCHOOI There are several options | e.edu (Utah's public colleges commended explorer cour L TO POSTSECON for education and trainin 1-2 Year | ining beyond high school. and universities) UtahM se IDARY EDUCATION A ng beyond high school, depen 2-Year | ND TRAINING ding on your career goals. 4-Year |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> concurrent enrollment course + red HIGH SCHOOI There are several options | e.edu (Utah's public colleges commended explorer cour L TO POSTSECON for education and trainin 1-2 Year Certificate | ining beyond high school. and universities) UtahM se NDARY EDUCATION A ng beyond high school, depen 2-Year Associate Degree | ND TRAINING ding on your career goals. |
| CTE Internship COSTSECONDARY: There are many of Jtah System of Higher Education: <u>ushe</u> concurrent enrollment course + rec HIGH SCHOOI There are several options | e.edu (Utah's public colleges commended explorer cour L TO POSTSECON for education and trainin 1-2 Year Certificate Graphic Artist Veb Analyst | ining beyond high school. and universities) UtahM se IDARY EDUCATION A ng beyond high school, depen 2-Year | ND TRAINING ding on your career goals. 4-Year Bachelor's Degree > CTE Teacher > Full Stack Developer |
| CTE Internship POSTSECONDARY: There are many of Jtah System of Higher Education: ushe concurrent enrollment course + rec HIGH SCHOOI There are several options Concurrent enrollment course + rec CONCURRENT OF CONCURRENT CONCURRENT OF CONCURRENT | e.edu (Utah's public colleges commended explorer cour L TO POSTSECON for education and trainin 1-2 Year Certificate Graphic Artist | ining beyond high school. and universities) UtahM se NDARY EDUCATION A ng beyond high school, depen 2-Year Associate Degree | ND TRAINING ding on your career goals. 4-Year Bachelor's Degree > CTE Teacher |
| CTE Internship POSTSECONDARY: There are many of Utah System of Higher Education: usho concurrent enrollment course + red HIGH SCHOOI There are several options Concurrent enrollment course + red Concurrent enrollment enrollme | e.edu (Utah's public colleges commended explorer cour L TO POSTSECON for education and trainin 1-2 Year Certificate Graphic Artist Veb Analyst Veb Technician | ining beyond high school. and universities) UtahM se NDARY EDUCATION A ng beyond high school, depen 2-Year Associate Degree | ND TRAINING ding on your career goals. 4-Year Bachelor's Degree > CTE Teacher > Full Stack Developer > UI/UX Designer |

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 Springville High School

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UtahTSA.org Utah FBLA flyer | SkillsUSA flyer | Utah TSA flyer

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

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

are the Career and Technical Student

Organizations (CTSO) for students in

the Web Development Career

TSA

Pathway.



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