

## Business and Marketing: Information Technology

A career in programming offers numerous advantages, ranging from high demand and competitive salaries to an intellectually stimulating work environment. In Washington state, the tech industry's robust growth has led to a surge in programming job opportunities. According to recent employment data, the state's tech sector witnessed an increase of 12% in tech-related occupations between 2016 and 2021, with software developers and programmers being among the most sought-after roles. The average annual wage for software developers in Washington state was approximately \$128,000, significantly higher than the overall average wage. This trend underscores the lucrative and stable nature of programming careers, making them an appealing choice for those looking to enter a thriving industry with ample room for advancement and innovation. Students that take two credits of classes in the Information Programming and Software Technology Pathway will meet the CTE graduation requirements.



### Students in this pathway will:

- ➔ Be able to meet science, math, English, and art credit requirements by taking courses in information technology.
- ➔ Be able to participate in DECA, FBLA, or Yearbook Club to practice career and leadership skills in information technology.
- ➔ Be able to receive dual credit (college credit) by passing AP computer science tests, or by successful completion of the Web Design course.
- ➔ Be eligible to apply for paid internship opportunities in computer science while or after taking AP Computer Science A.
- ➔ Be prepared to receive additional training at two- and four-year colleges.



### What high-demand careers are related to the Information Technology Pathway?

High-demand careers	Annual salary in Washington	Required training after high school	Schools offering degrees or certification
Computer user support specialists	\$67,000	Some college	Edmonds College Whatcom College Seattle Central College
Computer programmers	\$120,000	Bachelor's degree	Bellevue College University of Washington Edmonds College

\* Information from Washington State Employment Security Department, 2023

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High-demand careers	Annual salary in Washington	Required training after high school	Schools offering degrees or certification
Information security analysts	\$128,000	Bachelor's degree	University of Washington Edmonds College Everett Community College
Special effects artists and animators	\$96,000	Bachelor's degree	Lake Washington Institute of Technology DigiPen Institute of Technology Bellevue College
Graphic designers	\$62,000	Bachelor's degree	University of Washington Central Washington University Whitworth University

\* Information from Washington State Employment Security Department, 2023

## What courses are offered in the Information Technology Pathway?

Middle school courses in this pathway	College credit offered	Leads to a certification?	Equivalencies offered to meet graduation requirements
Foundations of Technology	N/A	N/A	N/A
Coding and Robotics	N/A	N/A	N/A
Digital Production (Digital Media)	N/A	N/A	N/A
High school courses in this pathway	College credit offered	Leads to a certification?	Equivalencies offered to meet graduation requirements
Microsoft Office Specialist (GPHS - 0.5 credit)		Office Specialist Certification	
Web Design (GPHS - 0.5 credit)	X		
Advanced Web Design (GPHS - 0.5 credit)			
Intro to Computer Science Principles (0.5 credit)			
AP Computer Science Principles (1.0 credit)			1.0 science credit
AP Computer Science A (1.0 credit)			1.0 math credit
Publications/Student Media (1.0 credit)	X (GPHS)		1.0 art or 1.0 senior English

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High school courses in this pathway	College credit offered	Leads to a certification?	Equivalencies offered to meet graduation requirements
Student Media 2 (GPHS - 1.0 credit)	X (GPHS)		

## Suggested course sequence - Information Technology Pathway:

### Journalism at Glacier Peak High School



### Journalism at Snohomish High School



### Programming



## Middle school course descriptions:

**Foundations of Technology** – The students in this class learn core concepts related to digital technology, focusing on applications, skills, and habits that students will be asked to rely on throughout their academic and professional career.

**Coding and Robotics (Valley View Middle School)** – This class exposes students to coding through Code.org curriculum and the growing field of robotics. Past present and future uses of robotics are examined. Projects include building a hydraulic robotic arm and using Lego Mindstorm kits to program several challenges.

**Digital Production (Centennial Middle School) Digital Media (Valley View Middle School)** – Students will learn to produce content in a digital space. Students will have choice over what they learn in this class and be able to pursue their passions as they related to creating creative content in digital space. Students have the option to create games, virtual reality spaces and games, beats and songs, websites and blogs, the basics of photography and photo editing, how to make animations, how to create digital art, and coding.

## High school course descriptions:

**Web Design (Glacier Peak High School only)** - In this course, students will learn how to create websites that have good design and are user friendly. No coding experience is necessary to complete this course as we will cover the basics of HTML and CSS. In addition to learning the basics of coding, we will also learn to use various Adobe products to help focus on good design and site interactivity. Five credits of CTE dual credit are available.

**Microsoft Office Specialist (Glacier Peak High School only)** – Students in this class will work toward an industry certification as a Microsoft Office Specialist (MOS). The specific Microsoft Office applications students will be focusing on are Word, Excel, and PowerPoint. The course also introduces students to coding through the Code.org curriculum. Five credits of CTE dual credit are available.

**Advanced Web Design (Glacier Peak High School only)** – After completing Web Design, students can choose whether to focus more on coding or design for this advanced course. Students can take their design abilities to the next level by focusing on principles of art/design, web usability, and improving their abilities in the Adobe Suite. Students can also choose to enhance their coding skills by digging deeper into HTML, CSS, and JavaScript.

**Intro to Computer Science Principles** – This introductory course is the one semester version of AP Computer Science Principles. This course is a fun and engaging class for all students. Students will be introduced to the foundational concepts of computer science and will be challenged to explore computing and technology can impact the world.

**AP Computer Science Principles** – This is an introductory course for all students. Students will learn about programming, algorithms, big data, digital security, and the societal impacts of computing. No previous programming experience is required. Advanced placement credit is available by passing the AP test.

**AP Computer Science A** – This course teaches students to code fluently using the Java programming language. Success in this year-long course will help you prepare for the College Board’s SP “Computer Science A” exam. Using the curriculum from Code.org, students will first learn about object-oriented programming and then develop their fundamental programming skills by learning about writing algorithms, arrays, array lists, recursion, searching and sorting. Advanced placement credit is available by passing the AP test.

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**Student Media/Publications** – This is a one-year course where students put together their high school yearbook. Adobe software will be used for the desktop publishing needed for the yearbook. Students in the class are expected to stay after class at least once a week going to events, getting interviews, quotes, and highlights. Students at Glacier Peak High School will also write, photograph, and publish for their high school news website. Three college credits are available through College in the High School (GPHS only). 1.0 credit of art or senior English equivalent credit is available.

**Student Media 2 (Glacier Peak High School only)** – After completing Student Media, students will continue learning about the Adobe Suite of programs and improving their photography, writing, and desktop publishing skills. Students will put their yearbook together and write, photograph, and publish for their high school news website. Three college credits are available through College in the High School (Glacier Peak High School only).

## What clubs are offered to practice career-related skills and leadership?

DECA or FLBA (Future Business Leaders of America) are the CTE co-curricular opportunities (called a Career and Technical Student Organization) that are related to the Information Technology Pathway for most students.

DECA, an internationally recognized student organization, prepares emerging leaders and entrepreneurs for careers in marketing, finance, hospitality, and management. Through DECA, students engage in a diverse array of hands-on activities that promote critical thinking, teamwork, and real-world business skills. Members have the chance to participate in competitive events, workshops, and conferences that enhance their understanding of marketing, economics, and entrepreneurship. As they progress through high school, DECA students cultivate leadership qualities, develop business plans, and gain insights into industry trends. After high school, DECA alumni often pursue careers in marketing, advertising, finance, business management, hospitality management, and related fields, where their honed skills and business acumen are highly valued in driving success and innovation.

Future Business Leaders of America (FBLA) is a prominent student organization dedicated to equipping young individuals with essential business skills and leadership development. FBLA offers students the opportunity to engage in a variety of activities, including business competitions, workshops, and community service projects, all aimed at fostering proficiency in areas such as entrepreneurship, finance, marketing, and management. Members gain practical experience through real-world simulations, networking events, and exposure to business professionals. As FBLA students progress through their high school years, they cultivate critical skills in communication, problem-solving, and teamwork. After high school, FBLA alumni often pursue careers in fields such as business administration, finance, marketing, management, and entrepreneurship, playing integral roles in diverse industries where their business acumen and leadership abilities contribute to innovation and success.

Student Media (Glacier Peak High School) and Publications (Snohomish High School) both have after-school opportunities for students to produce yearbooks. Students in these clubs will also be doing writing, photographing, and publishing for their high school news websites.

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