

ABOUT THE SHOP

Warren Tech's Computer Science Shop prepares students with the technical skills, creativity, and work ethic needed to excel as future programmers, network specialists, and computer scientists. This four-year program offers hands-on experience with multiple programming languages, computer science concepts, and networking configurations. Students begin by mastering core foundations such as computational thinking, algebraic logic, and programming fundamentals, then advance into exciting areas like Unity game development, web design using HTML and CSS, and physical computing with Arduino. Along the way, students will develop essential digital and professional skills to confidently market themselves in today's fast-paced, technology-driven world.

COLLEGE CREDITS EARNED

Students can earn **15 college credits** through a dual enrollment agreement with Warren County Community College. These credits are transferable to many public/ private colleges and universities.

CERTIFICATIONS

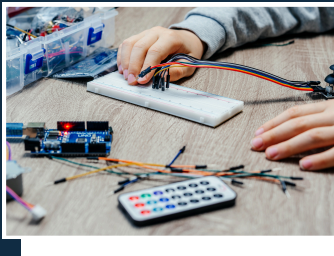
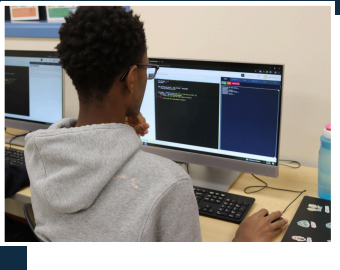
- **CompTIA IT Fundamentals (ITF+)** introduces students to essential IT knowledge and foundational skills, providing a strong base for future studies in networking and information technology.
- **Microsoft Excel Advanced Exam:** a credential that verifies professional competency using Excel spreadsheet applications.

CAREER PATHWAYS

App. Developer	Game Designer	Security Engineer
AI Developer	Front End Developer	Software Engineer
Data Analysis	IT Developer	System Analyst
Cybersecurity	IT Technician	Web Developer
Graphic Designer	Network Administrator	Quality Assurance Analyst

GO FOR THE GOLD

Students in the Computer Science Career Shop at Warren Tech can represent our school in SkillsUSA competitions, including Computer Programming, Interactive Application & Video Game Development. They can also participate in the Governor's App Challenge, creating innovative apps and projects to earn statewide recognition. These events give students the chance to design, code, and present real-world projects, sharpen problem-solving and teamwork skills, and earn recognition at the state and national level.



For More Information

Mrs. Michele Vulcano
vulcanom@wctech.org

admissions:
admissions@wctech.org

MEET THE INSTRUCTOR

Since 2019, **Mrs. Vulcano** has brought her vibrant energy and passion to Warren Tech as a Computer Science Instructor. She fosters creativity, problem-solving, and collaboration while preparing students for the evolving world of technology. In addition to teaching, she co-advises the Yearbook Club, inspiring students to blend design and storytelling with digital skills. Her dedication to innovation and lifelong learning motivates those around her.





Warren Tech Computer Science

Course Outline

COMPUTER SCIENCE 1

Problem Solving | Python

Introduction to Problem Solving

- Turtle Programming

Python Programming

- Console Interaction
- Conditions
- Looping
- Functions
- Strings
- Data Structures
- File i/o
- PyGammer

COMPUTER SCIENCE 3

Java / Networking

Java

- Primitive Types
- Using Objects
- Boolean Expression and If Statements
- Iterations/Loops
- Writing Classes
- Arrays
- Inheritance
- Recursion

Networking Certification

- CompTIA (ITF FC)
- Databases and Programming
- Information Systems

Game Development

- GreenFoot

COMPUTER SCIENCE 2

Web Development / JavaScript

Computer Science

Principles

- Digital Information
- Big Data
- Binary
- Global Impacts

Web Development

- HTML
- CSS
- BootStrap

Java Script

- Programming with JS Graphics
- Functions and Parameters
- Control Structures
- Game Building

App Development

- React Native
- p5Play
- Building Games

COMPUTER SCIENCE 4

Technology / Innovation

Artificial Intelligence

- Core AI Concepts
- AI In Practice
- Ethics and Societal Impacts

Cybersecurity

- Overview

Game Development

- Unity

Excel Advanced

- Certification MO-201 Excel Expert

Computing

- Arduino Robotics

Career Ready Practices

- Portfolio