

**MASTERY**  
— C O D I N G —



**Ohio**  
Department  
of Education



# Ohio CTE Programs Solutions

## Who is Mastery Coding?

Founded by a California Teacher of the Year Award Winner, Mastery Coding provides expertly-crafted coding curriculum to K-12 schools. Our students learn coding and technology skills aligned to modern workforce needs. This way, students can step into high-paying jobs with the critical aptitudes employers desperately seek.

## Our Mission

To provide schools with coding curriculum that is accessible, engaging, data-driven, updated, and sustainable for years to come.

## What We Do

Mastery Coding provides expert coding curriculum that allows:

**Students** with no prior coding experience learn to integrate academic and technical skills that focus and reinforce the concepts that are needed in the increasingly digital workplace. Ohio students have the opportunity to work in an industry-based coding landscape that offers Ohio Industry Recognized Credentials and transferable skills with endless potential for stackable credentials.

**Teachers** with no prior coding experience to successfully teach a series of project-based coding classes with confidence, and be supported with the resources necessary to engender academic achievement.

**Districts** to on-board a comprehensive curriculum that offers cutting-edge coding courses for elementary, middle and high school students (including several Ohio CTE Programs).



## Interactive Media

Mastery Coding has developed a 4-year course sequence solution to fully support the Interactive Media pathway utilizing the following courses:

- |                                     |                                |
|-------------------------------------|--------------------------------|
| ■ MC-OH Web Design                  | (Supports Subject Code 145010) |
| ■ MC-OH Programming                 | (Supports Subject Code 145060) |
| ■ MC-OH Game Design                 | (Supports Subject Code 145090) |
| ■ MC-OH Object Oriented Programming | (Supports Subject Code 145065) |

These courses incorporate following the ODE standards preparing students to apply scripting languages such as JavaScript in program writing, program customization, internet protocols and operations, program analysis, as well as, other aspects of operating systems and application design. Industry standards are used in all Mastery Coding courses providing real world programming experience for students in the following:

- Logic, Critical Thinking, and Problem Solving
- Beginning Application Development (Coding)
- Advanced Application Development (Database, Files, Security, Storage)
- Program Analysis and Design
- Programming Fundamentals and Syntax
- Leadership and Teamwork

# Interactive Media

## MC-OH Web Design

Web Design explores internet history, coding principles, and languages. It teaches HTML and CSS for students to create visually appealing web pages. Then it transitions to JavaScript, a scripting language that allows them to breathe life into their pages. Upon completing this course, students will have a solid understanding of computer science principles and the ability to code interactive web pages from scratch.

**Topics Include:** HTML, Document-Object Model (DOM), parent-child hierarchy, CSS, computer science principles, debugging, DOM manipulation, event-driven development.

## MC-OH Programming

Programming leverages the excitement of creating games to teach computer science, mathematics, and problem solving. Upon completion of this course, students will be proficient in JavaScript, computational thinking, 2D graphics, and game development principles.

**Topics Include:** JavaScript coding, cartesian coordinate systems, vector arithmetic, 2D animation, user interface, and game development organization.

## MC-OH Game Design

Game Design teaches C# coding and game design with the Unity 3D Engine. Upon course completion students will have the ability to create a 3D game from scratch on their own.

**Topics Include:** Object Oriented Programming, C#, game physics, vector arithmetic, programming best practices, git version control, asset management, 3D modeling, animation, cross-platform input support.

**Certifications:** Unity User: Programmer, Unity User: Artist

## MC-OH Object Oriented Programming

Object Oriented Programming focuses on the full development lifecycle. From design, to asset creation, to coding tools and behaviors. Students learn new skills and techniques in C# and Unity.

**Topics Include:** Intermediate C#, git version control, asset management, 3D modeling, animation, code collaboration, cross-platform input support.

**Prerequisites:** Game Design

**Certifications:** Unity Certified Associate