Career and Technical Education Department
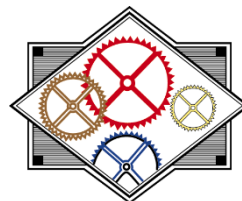## Computer Science and Information Technology
Junior High School

Arts & Communications

Business, Management Marketing & Technology

Health Science

Engineering/Manufacturing & Industrial Technology

Human Services

Natural Resources & Agriscience

VPAA – Meets Visual, Performing & Applied Arts Requirement
OLE – Meets Online Learning Experience Requirement
GR/MMC – Meets Graduation Requirements based on Michigan Merit Curriculum
21F – Course Available through Section 21F: Expanded Virtual Learning

DIGITAL LITERACY AND MEDIA DESIGN – B847	7	0.5 credit

Digital Literacy & Media Design is recommended semester long foundational course to be taken in 7th grade. Students will learn digital citizenship principles and apply that knowledge through the strategic use of digital media. This course will provide students the opportunity to work collaboratively to enhance their understanding of communicating ideas through digital displays of information. Students will integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.

COMPUTER SCIENCE DISCOVERIES I – E230	7, 8	0.5 credit

Computer Science Discoveries I is a one semester introductory computer science survey course targeted at grades 7-8. The course takes a wide lens on computer science by covering topics such as digital footprints, intellectual property, programming, JavaScript, and HTML/CSS. Students are empowered to create authentic artifacts and engage with Computer Science as a medium for creativity, communication, problem solving, and fun. Computer Science Discoveries I will explore the problem-solving process and the different ways humans and computers solve problems, discover the languages powering the web by building websites in HTML and CSS using Web Lab, and learn the foundational programming languages by building interactive animations and games in JavaScript using Game Lab. Implementation of this course will create a natural pathway for students to enroll in high school computer science courses. **This semester course is available only for those students who did not take it in the 7th grade.**

COMPUTER SCIENCE DISCOVERIES II – E330   7, 8   0.5 credit

Pre-Requisite: Computer Science Discoveries I

Students are empowered to create authentic artifacts and engage with Computer Science as a medium for creativity, communication, problem solving, and fun. Computer Science Discoveries II is a continuation of Computer Science Discoveries I and will follow the design process to identify and empathize with problems faced by a target audience by prototyping an app using App Lab. Students will develop binary representations of different kinds of information. They will collect, analyze, visualize, and make automated decisions using data. Finally, students will explore the relationship between hardware and software while building interactive projects using Adafruit's Circuit Playground. Implementation of this course will create a natural pathway for students to enroll in high school computer science courses. **This semester course is available only for those students who did not take it in the 7th grade.**

INTRODUCTION TO COMPUTER SCIENCE – E250   9   1.0 credit

The Intro to Computer Science curriculum is based on the University of California at Berkeley CS 10 course, "Beauty and Joy of Computing" (BJC). First semester, students will use the program Snap!, an approachable visual block-based programming language. Second semester, student will transition to text-based programming using Python language.

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES (VPAA) (21F) – E190   9   1.0 credit

Advanced Placement Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving.