

Computer Science

SCED Code	Course Name	SCED Course Identifier Description	SCED Description
10011G1.0011F	Computer Science Principles	CS Principles	Computer Science Principles courses provide students the opportunity use programming, computational thinking, and data analytics to create digital artifacts and documents representing design and analysis in areas including the Internet, algorithms, and the impact that these have on science, business, and society. Computer Science Principles courses teach students to use computational tools and techniques including abstraction, modeling, and simulation to collaborate in solving problems that connect computation to their lives.
10012G1.0011F	Exploring Computer Science	Exploring CS	Exploring Computer Science courses present students with the conceptual underpinnings of computer science through an exploration of human computer interaction, web design, computer programming, data modeling, and robotics. While these courses include programming, the focus is on the computational practices associated with doing computer science, rather than just a narrow focus on coding, syntax, or tools. Exploring Computer Science courses teach students the computational practices of algorithm design, problem solving, and programming within a context that is relevant to their lives.

10013G1.0011F	PLTW Computer Science Essentials	PLTW CS Essentials	Following Project Lead the Way's suggested curriculum, PLTW Computer Science Essentials (formerly known as PLTW Introduction to Computer Science) courses introduce students to computational thinking concepts, fundamentals, and tools. Students will increase their understanding of programming languages using visual and text-based programming. Projects will include the creation of apps and websites to address real-life topics and problems.
10015G1.0011F	PLTW Computer Science Principles	PLTW CS Principles	Following Project Lead the Way's suggested curriculum to prepare students for the College Board's Advanced Placement Computer Science Principles exam, PLTW Computer Science Principles (formerly known as PLTW Computer Science and Software Engineering) courses are designed to help students develop computational thinking and introduce students to possible career paths involving computing. These courses help students build programming expertise and familiarity with the Internet using multiple platforms and programming languages. Course content may include application development, visualization of data, cybersecurity, and simulation.
10019H1.0011F	AP Computer Science Principles	AP CS Principles	Following the College Board's suggested curriculum designed to parallel college-level computer science principles courses, AP Computer Science Principles courses introduce students to the fundamental ideas of computer science and how to apply computational thinking across multiple disciplines. These courses teach students to apply creative designs and innovative solutions when developing computational artifacts. These courses cover such topics as creative development, data, algorithms and programming, computer systems and networks, and the impact of computing.

10021G1.0011F	Computer Science Discoveries	CS Discoveries	Computer Science Discoveries is a highly interactive and collaborative introduction to the field of computer science. The course takes a wide lens on computer science by covering topics such as problem solving, programming, physical computing, user centered design, and data. Students build their own websites, apps, animations, games, and physical computing systems. Students create and share their own content to meet various design challenges, as well as implement computational solutions to problems that impact their communities. Along the way, they practice design, testing, and iteration, as they come to see that failure and debugging are an expected and valuable part of the programming process.
10022GKG0811F	Computer Science (prior-to-secondary)	Computer Science, K-8	Computer Science (prior-to-secondary) courses cover basic principles of computer science. In these courses, students learn how to develop and follow basic algorithms, collect, and organize data, troubleshoot hardware and software issues, and think critically about online safety and responsibility. Topics may also include modeling network and transmission protocols; transforming data using computational tools; iteratively developing, testing, and documenting programs; computational thinking; and addressing bias and accessibility in the design and development of technologies. Courses may include learning about emerging technologies.
10047G1.0011I	Computer Literacy—Independent Study	Comp Lit Ind Study	Computer Literacy—Independent Study courses, often conducted with instructors as mentors, enable students to explore computer-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

10048G1.0011F	Computer Literacy—Workplace Experience	Comp Lit Work Exp	Computer Literacy—Workplace Experience courses provide work experience in fields related to computer literacy. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.
10049G0.5011F	Computer Science	Computer Literacy - Other	Computer Education and Technology half-credit (one semester) course required for high school graduation. The course must cover prescribed high school standards that include both computer science and computer applications.
10152G1.0011F	Computer Programming	Comp Programming	Computer Programming courses provide students with the knowledge and skills necessary to construct computer programs in one or more languages. Computer coding and program structure are often introduced with block-based languages, but other text-based languages may be used. Students learn to structure, create, document, and debug computer programs. Advanced courses may include instruction in object-oriented programming to help students develop applications for Windows, database, multimedia, games, mobile and/or web environments. An emphasis is placed on design, style, clarity, and efficiency. In these courses, students apply the skills they learn to relevant authentic applications.
10153G1.0011F	Visual Basic (VB) Programming	VB Programming	Visual Basic (VB) Programming courses provide an opportunity for students to gain expertise in computer programs using the Visual Basic (VB) language. As with more general computer programming courses, the emphasis is on how to structure and document computer programs and how to use problem-solving techniques. These courses cover such topics as the use of text boxes, scroll bars, menus, buttons, and Windows

			applications. More advanced topics may include mathematical and business functions and graphics.
10154G1.0011F	C++ Programming	C++ Programming	C++ Programming courses provide an opportunity for students to gain expertise in computer programs using the C++ language. As with more general computer programming courses, the emphasis is on how to write logically structured programs, include appropriate documentation, and use problem-solving techniques. More advanced topics may include multi-dimensional arrays, functions, sorting, loops, and records.
10155G1.0011F	Java Programming	Java Programming	Java Programming courses provide students with the opportunity to gain expertise in computer programs using the Java language. As with more general computer programming courses, the emphasis is on how to structure and document computer programs, using problem-solving techniques. Topics covered in the course include syntax, I/O classes, string manipulation, and recursion.
10156G1.0011F	Computer Programming— Other Language	Comp Program Other	Computer Programming—Other Language courses provide students with the opportunity to gain expertise in computer programs using languages other than those specified (such as Pascal, FORTRAN, Python, or emerging languages). As with other computer programming courses, the emphasis is on how to structure and document computer programs, using problem-solving techniques. As students advance, they learn how to best utilize the features and strengths of the language being used.
10157G1.0022F	AP Computer Science A	AP COMPTUER SCI A	Following the College Board’s suggested curriculum designed to mirror college-level computer science courses, AP Computer Science A courses emphasize object-oriented programming methodology with a focus on problem solving and algorithm development. These courses cover such topics as object-oriented program design; program implementation;

			program analysis; standard data structures; standard algorithms; and the ethical and social implications of computing systems.
10159G1.0011F	IB Computer Science	IB COMPUTER SCI	IB Computer Science courses prepare students to take the International Baccalaureate Computer Science exams. The courses emphasize system fundamentals, computer organization, and networks, as well as the fundamental concepts of computational thinking, the development of practical computational solutions, and programming. IB Computer Science courses also cover the applications and effects of the computer on modern society as well as the limitations of computer technology.
10197G1.0011I	Computer Programming—Independent Study	COMP PROGRAM IS	Computer Programming—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to computer programming. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.
10198G1.0011F	Computer Programming—Workplace Experience	COMP PROG WORK EXP	Computer Programming—Workplace Experience courses provide students with work experience in fields related to computer programming. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.
10202G1.0011F	Computer Graphics	Computer Graphics	Computer Graphics courses provide students with the opportunity to explore the ways in which computers can produce visual imagery that communicates information and ideas effectively to multiple audiences using a variety of media and formats. Course topics may include principles and

			elements of design, image creation, image manipulation, and image types.
10205G1.0011F	Computer Gaming and Design	Comp Gaming Design	Computer Gaming and Design courses prepare students to design computer games by studying design, animation, artistic concepts, digital imaging, coding, scripting, multimedia production, and game play strategies. Advanced course topics include, but are not limited to, level design, environment and 3D modeling, scene and set design, motion capture, and texture mapping.
10247G1.0011I	Media Technology—Independent Study	Media Tech IS	Media Technology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to media technology. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.
10248G1.0011F	Media Technology—Workplace Experience	Media Tech Work Exp	Media Technology—Workplace Experience courses provide students with work experience in fields related to media technology. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.
10249G1.0011F	Media Technology—Other	Media Tech	Other Media Technology courses.

10301G1.0011F	Computer Forensics	Comp Forensics	Computer Forensics courses address the preservation, identification, extraction, documentation, and interpretation of computer data. Topics covered may include legal concepts, evidence handling and preservation, file system structures, chain of custody, and identification and recovery of computer data. These courses may also cover the need to perform an investigation and how to collect evidence and analyze data.
10302G1.0011F	Cyber Crime	Cyber Crime	Cyber Crime courses cover legal and ethical behavior associated with network security. Topics may include discussions about current common practices used to secure networks, how to test these networks, and presents methods that can be used to create a secure network environment. These courses may also cover the impact federal and state legislation has had on information technology practices.
10993G1.0011F	Information Technology—School-based Enterprise	Information Technology—School-based Enterprise	Used as an ELECTIVE Only. Information Technology—School-based Enterprise courses provide students the opportunity to learn about and manage an entrepreneurial operation related to information technology within a school setting. Students will develop interpersonal and professional skills. Topics may include operations, product services management, pricing, distribution, and marketing.
10994G1.0011F	Information Technology—Career Project-based Learning	Information Technology—Career Project-based Learning	Used as an ELECTIVE Only. Information Technology—Career Project-based Learning courses provide students with an introduction to careers in the information technology field. Students will work in cooperation with local businesses, community organizations, or non-profit agencies to explore and solve real-world problems that could arise in the workplace. These courses occur in a classroom setting and typically do not include work in the field.