**COURSE DESCRIPTION**

**Course Title:** Computer Technology 9

**Course Number:** 01253

**Course Prerequisites:** None

**Course Description:** Computer Technology 9 engages students in creating complex workbooks in Excel, an introduction to AI, and Adobe graphic creations. In addition, it includes content containing internet safety and digital citizenship.

**Suggested Grade Level**: Grade 9

**Length of Course:** One Semester

**Units of Credit:** .5

**PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:**

CSPG-33 K-12 Business, Computer, Information Technology

To find the CSPG information, go to [CSPG](https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx)

**Certification verified by the WCSD Human Resources Department:** [x] Yes [ ] No

**WCSD STUDENT DATA SYSTEM INFORMATION**

**Course Level:** Academic

**Mark Types:** Check all that apply.

[x] F – Final Average [x] MP – Marking Period [x] EXM – Final Exam

**GPA Type**: [ ]  GPAEL-GPA Elementary [ ]  GPAML-GPA for Middle Level [x]  NHS-National Honor Society

[ ]  UGPA-Non-Weighted Grade Point Average [x]  GPA-Weighted Grade Point Average

**State Course Code**: 10001 Introduction to Computer Technology

To find the State Course Code, go to [State Course Code](https://nces.ed.gov/forum/sced.asp), download the Excel file for *SCED*, click on SCED 6.0 tab, and choose the correct code that corresponds with the course.

**TEXTBOOKS AND SUPPLEMENTAL MATERIALS**

**Board Approved Textbooks, Software, and Materials:**

**Title:** **Learn by Doing: Microsoft 365 Excel**

**Publisher:** **B.E. Publishing**

**ISBN #:**  978-1-626896-01-7

**Copyright Date:** 2023

**WCSD Board Approval Date:** 05/08/2023

**Title:** **Adobe Photoshop, Illustrator, and Indesign Collaboration and Workflow**

**Publisher:** **Classroom in a Book**

**ISBN #:**  978-0-13-790846-2

**Copyright Date:** 2023

**WCSD Board Approval Date:** 05/08/2023

**Supplemental Materials:** [Common Sense Media: Age-Based Media Reviews for Families | Common Sense Media](https://www.commonsensemedia.org/), <https://studio.code.org/>

**Curriculum Document**

**WCSD Board Approval:**

**Date Finalized:** 3/11/2024

**Date Approved:**  3/11/2024

**Implementation Year:** 2024-2025

**SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS**

The teacher shall make appropriate modifications to instruction and assessment based on a student’s Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

**SCOPE AND SEQUENCE OF CONTENT, AND CONCEPTS**

**Marking Period 1**

* Digital Citizenship (2 weeks)
* Microsoft Excel (6 weeks)

**Marking Period 2**

* Introduction to AI (4 weeks)
* Adobe Software (6 weeks)

**Marking Period 3**

* Digital Citizenship (2 weeks)
* Microsoft Excel (6 weeks)

**Marking Period 4**

* Introduction to AI (4 weeks)
* Adobe Software (6 weeks)

**Standards/Eligible Content and Skills**

| **Performance Indicator** | **PA Core Standard and/or Eligible Content** | **Marking Period Taught**  |
| --- | --- | --- |
| Discriminate among the concepts of systems, subsystems, feedback and control in solving technological problems. | SCT.10.3.1.10.A | MP1, MP3 |
| Examine the problem, rank all necessary information and all questions that must be answered. | SCT.10.3.2.10.D.1 | MP1, MP3 |
| Select and safely apply appropriate tools, materials and processes necessary to solve complex problems. | SCT.10.3.7.10.A.1 | MP1, MP3 |
| Apply basic computer operations and concepts. | SCT.10.3.7.10.C | MP1, MP2, MP3, MP4 |
| Identify solutions to basic hardware and software problems. | SCT.10.3.7.10.C.1 | MP1, MP2, MP3, MP4 |
| Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. | LA.CC.3.6.9-10.A.4 | MP1, MP3 |
| Apply basic multimedia applications. | SCT.10.3.7.10.D.3 | MP1, MP2, MP3, MP4 |
| Apply advanced word processing, database and spreadsheet skills. | SCT.10.3.7.10.D.4  | MP1, MP3 |
| Describe and demonstrate how two or more software applications can be used to produce an output. | SCT.10.3.7.10.D.5 | MP1, MP3 |
| Select and apply software designed to meet specific needs. | SCT.10.3.7.10.D.6 | MP1, MP3 |
| Apply basic computer communications systems. | SCT.10.3.7.10.E | MP1, MP3 |
| Synthesize data and analyze trends to make decisions about technological products, systems, or processes. | SCI.3.5.9-12.J | MP1, MP3 |
| Use project management tools, strategies, and processes in planning, organizing, and controlling work. | SCI.3.5.9-12.OO | MP1, MP3 |
| Demonstrate the use of conceptual, graphical, virtual, mathematical, and physical modeling to identify conflicting considerations before the entire system is developed and to aid in design decision making. | SCI.3.5.9-12.PP | MP1, MP3 |
| Critically assess and evaluate a technology that minimizes resource use and resulting waste to achieve a goal. | SCI.3.5.9-12.B | MP2, MP4 |
| Evaluate a technological innovation that arose from a specific society’s unique need or want. | SCI.3.5.9-12.F | MP2, MP4 |
| Evaluate a technological innovation that was met with societal resistance impacting its development. | SCI.3.5.9-12.G | MP2, MP4 |
| Evaluate ways that technology and engineering can impact individuals, society, and the environment. | SCI.3.5.9-12.H | MP2, MP4 |
| Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. | SCI.3.5.9-12.I | MP2, MP4 |
| Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem. | SCI.3.5.9-12.K | MP2, MP4 |
| Interpret laws, regulations, policies, and other factors that impact the development and use of technology. | SCI.3.5.9-12.L | MP2, MP4 |
| Connect technological and engineering progress to the advancement of other areas of knowledge and vice versa. | SCI.3.5.9-12.EE | MP2, MP4 |
| Evaluate how technology enhances opportunities for new products and services through globalization. | SCI.3.5.9-12.FF | MP2, MP4 |
| Evaluate how technology and engineering have been powerful forces in reshaping the social, cultural, political, and economic landscapes throughout history | SCI.3.5.9-12.GG | MP2, MP4 |
| Systematically test and refine programs using a range of test cases | CS.6.8.2-AP-17 | MP2, MP4 |
| Collect data using computational tools and transform the data to make it more useful and reliable. | CS.6.8.2-DA-08 | MP2, MP4 |
| Refine computational models based on the data they have generated. | CS.6.8.2-DA-09  | MP2, MP4 |
| Compare tradeoffs associated with computing technologies that affect people's everyday activities and career options. | CS.6.8.2-IC-20 | MP2, MP4 |
| Discuss issues of bias and accessibility in the design of existing technologies. | CS.6.8.2-IC-21  | MP2, MP4 |
| Explain how abstractions hide the underlying implementation details of computing systems embedded in everyday objects. | CS.9-10.3A-CS-01 | MP2, MP4 |
| Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices. | CS.9-10.3A-IC-24 | MP2, MP4 |
| Explain the beneficial and harmful effects that intellectual property laws can have on innovation. | CS.9-10.3A-IC-28 | MP2, MP4 |
| Describe how artificial intelligence drives many software and physical systems. | CS.11-12.3B-AP-08 | MP2, MP4 |
| Evaluate algorithms in terms of their efficiency, correctness, and clarity. | CS.11-12.3B-AP-11 | MP2, MP4 |
| Use data analysis tools and techniques to identify patterns in data representing complex systems. | CS.11-12.3B-DA-05 | MP2, MP4 |
| Evaluate the ability of models and simulations to test and support the refinement of hypotheses. | CS.11-12.3B-DA-07 | MP2, MP4 |
| Evaluate computational artifacts to maximize their beneficial effects and minimize harmful effects on society. | CS.11-12.3B-IC-25 | MP2, MP4 |
| Evaluate the impact of equity, access, and influence on the distribution of computing resources in a global society. | CS.11-12.3B-IC-26 | MP2, MP4 |
| Analyze and use relevant and appropriate design thinking processes to solve technological and engineering problems | SCI.3.5.9-12.N | MP2, MP4 |
| Apply a broad range of design skills to a design thinking process. | SCI.3.5.9-12.P  | MP2, MP4 |
| Implement and critique principles, elements, and factors of design. | SCI.3.5.9-12.Q  | MP2, MP4 |
| Conduct research to inform intentional inventions and innovations that address specific needs and wants. | SCI.3.5.9-12.S | MP2, MP4 |
| Evaluate and define the purpose of a design. | SCI.3.5.9-12.U | MP2, MP4 |
| Describe the proper use of graphic and electronic communication systems. | SCT.10.3.6.10.B.1 | MP2, MP4 |
| Apply and analyze advanced communication techniques to produce an image that effectively conveys a message (e.g., desktop publishing, audio and/or video productions). | SCT.10.3.6.10.B.3 | MP2, MP4 |
| Utilize computer software to solve specific problems. | SCT.10.3.7.10.D | MP2, MP4 |
| Apply advanced graphic manipulation and desktop publishing techniques. | SCT.10.3.7.10.D.2 | MP2, MP4 |

**ASSESSMENTS**

**PDE Academic Standards, Assessment Anchors, and Eligible Content:** The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

**Formative Assessments:** The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

**Effective formative assessments for this course include:** Projects, Quizzes, Test

**Summative Assessments:** The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

**Effective summative assessments for this course include:** Portfolio of projects