WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Applying Technology 7
Course Number: 00731
Course Prerequisites: None

Course Description: 7th Grade Technology Education is a semester-long, activity-based course that introduces students to Technology by examining the systems of communication, manufacturing, construction, transportation, and bio-related technologies. Emphasis will be placed on the design process and the application of using tools and materials to complete various Technology activities. This course provides a foundation for future studies in Technology and is a pre-requisite for 8th Grade Technology Education.

Suggested Grade Level: Grade 7
Length of Course: One Semester
Units of Credit: .5
PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG 65 PK-12
To find the CSPG information, go to CSPG
Certification verified by the WCSD Human Resources Department: ☒Yes ☐No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Academic
Mark Types: Check all that apply.
☐F – Final Average ☒MP – Marking Period ☐EXM – Final Exam

GPA Type: ☐ GPAEL-GPA Elementary ☒ GPAML-GPA for Middle Level ☐ NHS-National Honor Society ☐ UGPA-Non-Weighted Grade Point Average ☐ GPA-Weighted Grade Point Average

State Course Code: 21051
To find the State Course Code, go to State Course Code, 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:	Introduction to Technology
Publisher:	Glencoe/McGraw-Hill
ISBN #:	0-07-861219-5
Copyright Date:	2005
WCSD Board Approval Date:	2007

Supplemental Materials: CAD Software, Pro Engineering Computer Aided Drafting Program/Software

Curriculum Document

WCSD Board Approval:

Date Finalized:	2/15/2018
Date Approved:	3/12/2018
Implementation Year:	2018-2019

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

- Introduction to Technology
- Design
- Manufacturing

Marking Period 2

- Construction Technology
- Transportation Technology
- Communication Technology
- Bio-Related Technology

Marking Period 3

- Introduction to Technology
- Design
- Manufacturing

Marking Period 4

- Construction Technology
- Transportation Technology
- Communication Technology
- Bio-Related Technology

Standards/Eligible Content and Skills

Performance Indicator	PA Core Standard and/or Eligible Content	Marking Period Taught
Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	RST.6-8.3	MP1, MP2, MP3, MP4
Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually.	RST.6-8.7	MP1, MP3
Write arguments focused on discipline-specific content.	WHST.6-8.1	MP1, MP3
Provide a concluding statement or section that follows from and supports the argument presented.	WHST.6-8.1.e	MP1, MP3
Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.	WHST.6-8.2	MP1, MP3
Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.	WHST.6-8.2.b	MP1, MP3
Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.	WHST.6-8.2.c	MP1, MP3
Use precise language and domain-specific vocabulary to inform about or explain the topic.	WHST.6-8.2.d	MP1, MP3
Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	WHST.6-8.6	MP1, MP3
Research information from various sources to use and maintain technological products or systems.	3.5.6-8.A	MP1, MP3
Use instruments to gather data on the performance of everyday products.	3.5.6-8.B	MP1, MP2, MP3, MP4
Analyze how the creation and use of technologies consumes renewable, non-renewable, and inexhaustible resources; creates waste; and may contribute to environmental challenges.	3.5.6-8.D	MP1, MP2, MP3, MP4
Consider the impacts of a proposed or existing technology and devise strategies for reducing, reusing, and recycling waste caused by its creation.	3.5.6-8.E	MP2, MP4
Analyze examples of technologies that have changed the way people think, interact, live, and communicate.	3.5.6-8.F	MP2, MP4
Examine the ways that technology can have both positive and negative effects at the same time.	3.5.6-8.I	MP1, MP3
Use tools, materials, and machines to safely diagnose, adjust, and repair systems.	3.5.6-8.J	MP1, MP2, MP3, MP4
Use devices to control technological systems.	3.5.6-8.K	MP1, MP2, MP3, MP4
Design methods to gather data about technological systems.	3.5.6-8.L	MP1, MP3
Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.	3.5.6-8.M	MP1, MP2, MP3, MP4
Interpret the accuracy of information collected.	3.5.6-8.O	MP1, MP3

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Marking Period Taught**
Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	3.5.6-8.P	MP1, MP3
Apply a technology and engineering design thinking process.	3.5.6-8.Q	MP1, MP2, MP3, MP4
Develop innovative products and systems that solve problems and extend capabilities based on individual or collective needs and wants.	3.5.6-8.R	MP1, MP2, MP3, MP4
Illustrate the benefits and opportunities associated with different approaches to design.	3.5.6-8.S	MP1, MP2, MP3, MP4
Create solutions to problems by identifying and applying human factors in design.	3.5.6-8.T	MP1, MP2, MP3, MP4
Evaluate and assess the strengths and weaknesses of various design solutions given established principles and elements of design.	3.5.6-8.U	MP1, MP2, MP3, MP4
Refine design solutions to address criteria and constraints.	3.5.6-8.V	MP1, MP2, MP3, MP4
Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	3.5.6-8.W	MP1, MP2, MP3, MP4
Defend decisions related to a design problem.	3.5.6-8.X	MP1, MP2, MP3, MP4
Demonstrate how knowledge gained from other content areas affects the development of technological products and systems.	3.5.6-8.BB	MP2, MP4
Engage in a research and development process to simulate how inventions and innovations have evolved through systematic tests and refinements.	3.5.6-8.DD	MP1, MP2, MP3, MP4
Demonstrate how systems thinking involves considering relationships between every part, as well as how the systems interact with the environment in which it is used.	3.5.6-8.FF	MP1, MP2, MP3, MP4
Compare how different technologies involve different sets of processes.	3.5.6-8.LL	MP1, MP2, MP3, 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 use various assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include:

Formative Assessments:
- Written assignments
- Lab reports
- Web based
- Objective Quizzes
- Use rubrics to assess process, not just product
- Peer evaluations by rubric

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

Effective summative assessments for this course include:

Summative Assessments:
- Performance Assessments
- Written tests
- Projects
- Student Presentations