

**WARREN COUNTY SCHOOL DISTRICT**

PLANNED INSTRUCTION

**COURSE DESCRIPTION**

**Course Title:** CSI Investigations  
**Course Number:** 00322  
**Course Prerequisites:** None

**Course Description:** Students in grades 6-8 will uncover the intricacies of crime scene analysis, DNA extraction, and soil composition assessment, seamlessly blending the principles of life, physical, and Earth and space sciences. Engage in hands-on activities, cultivating science and engineering practices while deciphering complex cases. Delve into the crosscutting concepts, recognizing patterns, understanding cause and effect, and connecting the scientific dots. This course unveils the interconnected web of knowledge, nurturing curious minds to unravel mysteries and think critically across scientific disciplines.

**Suggested Grade Level:** Grades 6-8

**Length of Course:** One Semester

**Units of Credit:** .5

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

CSPG 32 Biology, CSPG 34 Chemistry, CSPG 40 Earth and Space Science, CSPG 41 Elementary Education K – 6, CSPG 45 Environmental Science, CSPG 46 General Science, CSPG 54 Middle Level Science, CSPG 56 Physics, CSPG 70 Grades 4 – 8 (3100-05)

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:** 03239, 03214

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.

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**TEXTBOOKS AND SUPPLEMENTAL MATERIALS**

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

**Title:** Click or tap here to enter text.  
**Publisher:** Click or tap here to enter text.  
**ISBN #:** NA  
**Copyright Date:** NA  
**WCSD Board Approval Date:** NA

**Supplemental Materials:** CSI Expert: Forensic Science for Kids Grades 5-8 by Karen K. Schultz, CSI/FISK Kits: The Case of the Kidnapped Cookie, The Case of the Lost Skull, The Case of the Missing Mascot, The Case of the Contaminated Creek. Content specific videos/video clips from Swank, YouTube, PBS or other WCSD approved source.

**Curriculum Document**

**WCSD Board Approval:**  
**Date Finalized:** 3/13/2024  
**Date Approved:** 6/10/2024  
**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**

- Crime Scene Investigations
  - o Protocols and safety
  - o Documenting a crime scene
- The Case of the Lost Skull
  - o Fingerprint Science
  - o Blood Typing
  - o Fiber Identification
  - o Imprint Analysis
  - o Dichotomous Key Basics
  - o Ink Chromatography
  - o Hair Identification Animal
- The Case of The Kidnapped Cookies
  - o White Powder Chemical Analysis
  - o Soil Analysis
  - o DNA Basics and Extraction
  - o Printed Words Investigations

**Marking Period 2**

- The Case of the Missing Mascot
  - o Fiber Flame Analysis
  - o Handwriting Analysis and Investigations
  - o Dental Impressions
  - o Ink Chromatography Applications
  - o Dichotomous Key Applications
- The Case of the Contaminated Creek
  - o Glass Fracture Analysis
  - o Tool Impressions
  - o Macroinvertebrate Species Analysis
  - o Hair Identification Human
- The Case of the Barn Bucks
  - o Wildlife Crime Forensics
  - o Forensic Entomology

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**Marking Period 3**

- Crime Scene Investigations
  - Protocols and safety
  - Documenting a crime scene
- The Case of the Lost Skull
  - Fingerprint Science
  - Blood Typing
  - Fiber Identification
  - Imprint Analysis
  - Dichotomous Key Basics
  - Ink Chromatography
  - Hair Identification Animal
- The Case of The Kidnapped Cookies
  - White Powder Chemical Analysis
  - Soil Analysis
  - DNA Basics and Extraction
  - Printed Words Investigations

**Marking Period 4**

- The Case of the Missing Mascot
  - Fiber Flame Analysis
  - Handwriting Analysis and Investigations
  - Dental Impressions
  - Ink Chromatography Applications
  - Dichotomous Key Applications
- The Case of the Contaminated Creek
  - Glass Fracture Analysis
  - Tool Impressions
  - Macroinvertebrate Species Analysis
  - Hair Identification Human
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**Standards/Eligible Content and Skills**

<b>Performance Indicator</b>	<b>PA Core Standard and/or Eligible Content</b>	<b>Marking Period Taught</b>
Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells.	3.1.6-8.A	MP1 MP2 MP3 MP4
Use arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.	3.1.6-8.C	MP1 MP2 MP3 MP4
Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.	3.1.6-8.E	MP1 MP2 MP3 MP4
Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.	3.1.6-8.I	MP2 MP4
Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	3.1.6-8.K	MP2 MP4
Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	3.1.6-8.L	MP2 MP4
Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.	3.1.6-8.M	MP1 MP2 MP3 MP4
Develop and use a model to describe why <del>asexual reproduction results in offspring with identical genetic information and</del> sexual reproduction results in offspring with genetic variation.	3.1.6-8.N	MP1 MP2 MP3 MP4
Apply scientific ideas to construct an explanation for anatomical similarities and differences among modern organisms <del>and between modern and fossil organisms to infer evolutionary relationships.</del>	3.1.6-8.P	MP1 MP2 MP3 MP4
Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.	3.2.6-8.D	MP1 MP2 MP3 MP4
Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	3.2.6-8.E	MP2 MP4

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<b>Performance Indicator</b>	<b>PA Core Standard and/or Eligible Content</b>	<b>Marking Period Taught</b>
Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.	3.3.6-8.K	MP2 MP4
Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems.	3.3.6-8.N	MP1 MP2 MP3 MP4
Collect, analyze, and interpret environmental data to describe a local environment.	3.4.6-8.E	MP1 MP2 MP3 MP4
Obtain and communicate information to describe how best resource management practices and environmental laws are designed to achieve environmental sustainability.	3.4.6-8.G	MP2 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 (ETS)	MP2 MP4
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 (ETS)	MP2 MP4
Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.	3.5.6-8.N (ETS)	MP2 MP4
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 (ETS)	MP2 MP4
Cite specific textual evidence to support analysis of science and technical texts.	CC.3.5.6-8.A	MP1 MP2 MP3 MP4
Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.	CC.3.5.6-8.D	MP1 MP2 MP3 MP4
Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	CC.3.5.6-8.G	MP1 MP2 MP3 MP4

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Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	CC.3.5.6-8.H	MP1 MP2 MP3 MP4
Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	CC.3.5.6-8.I	MP1 MP2 MP3 MP4
By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.	CC.3.5.6-8.J	MP1 MP2 MP3 MP4
Write arguments focused on discipline-specific content. • Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. • Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. • Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. • Establish and maintain a formal style. • Provide a concluding statement or section that follows from and supports the argument presented.	CC.3.6.6-8.A	MP1 MP2 MP3 MP4
Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. • Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. • Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. • Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. • Use precise language and domain-specific vocabulary to inform about or explain the topic. • Establish and maintain a formal style and objective tone. • Provide a concluding statement or section that follows from and supports the information or explanation presented.	CC.3.6.6-8.B	MP1 MP2 MP3 MP4
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	CC.3.6.6-8.C	MP1 MP2 MP3 MP4
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	CC.3.6.6-8.D	MP1 MP2 MP3 MP4

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Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	CC.3.6.6-8.E	MP1 MP2 MP3 MP4
Draw evidence from informational texts to support analysis reflection, and research.	CC.3.6.6-8.H	MP1 MP2 MP3 MP4
Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	CC.3.6.6-8.I	MP1 MP2 MP3 MP4

**ASSESSMENTS**

**PDE Academic Standards:** The teacher must be knowledgeable of the PDE STEELS Standards as well as the Reading and Writing in Science and Technology Standards 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:** Bell ringers, exit tickets, notice and wonderings, progress checks, quizzes, lab assignments, writing prompts, teacher questioning, class discussions, individual and team based projects.

**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:** Lab reports, CER responses, case results, tests, court simulations.