

# 08-Forensic Entomology

Content Area: **Science**  
Course(s):  
Time Period: **Full Year**  
Length: **2 weeks**  
Status: **Published**

## **General Overview, Course Description or Course Philosophy**

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In this course, you will apply the science you've learned throughout your high school years in a variety of ways to analyze and solve cases. Various aspects of chemistry, physics, biology and physiology, to name a few, will be utilized with this course. Many of the activities will be lab-base, as this course is an applied science course. This course should prove to be intriguing, through provoking and have a "gross-factor" that should keep you entertained!

## **OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS**

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Students will understand that: when a dead body lies out for an extended time, it is very common to find insects present on the body. In studying forensic entomology, students will use knowledge of different insects' life cycles to estimate the time of death.

## **CONTENT AREA STANDARDS**

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LA.RST.11-12.7	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
LA.RST.11-12.8	Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
LA.RST.11-12.9	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
LA.WHST.11-12.1.A	Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
SCI.9-12.HS-LS1-2	Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

## **RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)**

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LA.RH.11-12.7	Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, qualitatively, as well as in words) in order to address a question or solve a problem.
LA.RH.11-12.8	Evaluate an author's claims, reasoning, and evidence by corroborating or challenging them with other sources.
LA.RH.11-12.9	Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
LA.RST.11-12.1	Accurately cite strong and thorough evidence from the text to support analysis of science and technical texts, attending to precise details for explanations or descriptions.
LA.RST.11-12.2	Determine the central ideas, themes, or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
LA.RST.11-12.3	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

## **STUDENT LEARNING TARGETS**

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Refer to the 'Declarative Knowledge' and 'Procedural Knowledge' sections.

### **Declarative Knowledge**

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Students will understand that:

- compare the life cycles of certain insects
- describe how the presence of insects at a crime scene can provide useful information to a forensic scientist
- outline the insect maturity at a crime scene, which is used to estimate time of death
- determine how temperature and precipitation can affect crime scene entomology evidence
- how insects can be used to determine presence of drugs in the body

### **Procedural Knowledge**

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Students will be able to:

- determine how temperature and precipitation can affect crime scene entomology evidence
- how insects can be used to determine presence of drugs in the body.

## **EVIDENCE OF LEARNING**

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Refer to the 'Formative Assessments' and 'Summative Assessments' sections.

## **Formative Assessments**

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observation exercises

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exit/entrance tickets

quizzes

homework

## **Summative Assessments**

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- Benchmarks – departmental benchmark given at the end of MP1, MP2, and MP3 based on lab practices
- Alternative Assessments
  - Lab inquiries and investigations
  - Lab Practicals
  - Exploratory activities based on phenomenon
  - Gallery walks of student work
  - Creative Extension Projects
  - Build a model of a proposed solution
  - Let students design their own flashcards to test each other
  - Keynote presentations made by students on a topic
  - Portfolio

## **RESOURCES (Instructional, Supplemental, Intervention Materials)**

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American Academy of Forensic Science ([aaafs.org/students/choosing-a-career/](http://aaafs.org/students/choosing-a-career/))

American Forensic Association ([americanforensics.org/what.html](http://americanforensics.org/what.html))

NY Times Forensics Articles ([nytimes.com/topic/subject/forensic-science](http://nytimes.com/topic/subject/forensic-science))

Forensic Files ([youtube.com/user/ForensicFilesChannel](https://www.youtube.com/user/ForensicFilesChannel))

Forensic Science Experiments

([thehomescientist.com/forensics/Illustrated\\_Guide\\_to\\_Home\\_Forensic\\_Science\\_Experiments.pdf](https://thehomescientist.com/forensics/Illustrated_Guide_to_Home_Forensic_Science_Experiments.pdf))

## **INTERDISCIPLINARY CONNECTIONS**

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## **ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS**

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See link to Accommodations & Modifications document in course folder.