



Locally Developed/Department Authorized Course Framework Template

Developed by: Mark Connell (Based on BAA Documents Provided by South Central Interior Distance Education School)	Date Developed: September 21, 2021
School Name: Aurora Virtual School	Signature of Superintendent:
Committee Approval Date:	Committee Chair Signature:
Course Name: Forensics 12	Grade Level of Course: Grade 12
Number of Course Credits: 4	Number of Hours of Instruction: 120 hours

Department Authorized Prerequisite(s):

None

Special Training, Facilities or Equipment Required:

Online Self-Directed Course: Requires computer (updated plugins/web browser) and robust internet connection.

Course Synopsis:

This course focuses on the analysis of crime scene evidence and the forensic testing that takes place within the crime laboratory setting. Students will learn about some of the basic scientific principles and knowledge that guides forensic laboratory processes, such as those testing DNA, toxicology, and material analysis. Techniques such as microscopy, chromatography, odontology, entomology, mineralogy, and spectroscopy will also be examined.

Goals and Rationale:

Students will examine some of the forensic science laboratory techniques for identifying and testing drug evidence, toxins, and document forgeries; will discover how knowledge of bones, teeth, and insect life cycles and habits assist in solving crimes; will

investigate how paint, soil, and trace evidence is collected and analyzed. Furthermore, newer trends in forensic science, including the investigation of digital crime, will be explored.

Yukon First Nations Perspectives:

In delivery Forensics 12 seeks to integrate these Yukon First Nations Perspectives:

- Learning is understanding identity and one's relationship with the external environment
- Learning requires exploration of identity
- Learning involves recognizing the consequences of actions
- Learning involves generational roles and responsibilities
- Learning involves the teacher as facilitator of a student-centered course
- Learning ultimately supports the well-being of the community, family, and self.
- Learning is holistic, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place)
- Learning recognizes the role of Yukon First Nations ways of knowing and doing
- Learning is embedded in memory, history, and oral story
- Learning involves patience and time
- Learning involves recognizing that some knowledge and protocol is sacred and only shared with permission and/or in certain situations

BIG IDEAS

Forensic scientists help preserve and accurately process crime scene evidence.

Forensics requires knowledge of principles of biology, chemistry, and physics, as well as digital technology sciences.

Methods and techniques for collecting and processing evidence are specific to forensic science.

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to do the following:</i></p> <p>Examine common ways samples can be taken from humans to test for drugs.</p> <p>Consider some of the issues in collecting and preserving drug evidence.</p> <p>Learn about questioned documents and exemplars.</p> <p>Discuss ways that document alterations can be found as well as how document examiners find forgeries and counterfeit materials.</p> <p>Discuss techniques used by forensic scientists to identify poisons and other toxins, including poisonous substances used throughout history.</p> <p>Consider the role of toxicologists in criminal investigations.</p> <p>Consider how trace evidence left at a crime scene can yield important clues about the victim, perpetrator, and the crime scene</p> <p>Examine usefulness of various forms of trace evidence in investigating crimes.</p> <p>Examine some of the tests used to identify and compare trace evidence.</p>	<p><i>Students are expected to know the following:</i></p> <p>The different types of drugs and their effects.</p> <p>The uses of screening and confirmatory tests in criminal investigations.</p> <p>Aspects that document examiners use to compare handwriting or typescript.</p> <p>Understand how poisons or toxins are absorbed and transmitted through the body.</p> <p>Describe the procedures and techniques used in the collection and preservation of blood evidence.</p> <p>Describe the nature of matter and its relationship to elements and compounds; explain how protons, neutrons, electrons, and other chemical aspects are used by forensic scientists to study trace evidence.</p> <p>Discuss types of microscopes and how they function</p>

Investigate some of the tests used in forensic entomology.

Explore studies of insect activity as they relate to forensic science.

Examine some of the tests used in the area of forensic anthropology.

Explore uses of forensic anthropology in the criminal justice system.

Investigate how internet activity, email, and other aspects can be traced and examined forensically.

Consider how computer evidence can be collected and preserved.

Explore recent advances in forensic techniques and testing, as well as current limitations of forensic science investigations.

Define forensic entomology and its uses in crime scene investigation.

Examine what insects and arthropods are common pieces of evidence in criminal investigations.

Define forensic anthropology and forensic odontology.

Be familiar with characteristics of bones and teeth that provide forensic scientists with information about person's identity.

Identify the different parts of computers, as well as areas of the computer where information can be retrieved.

Big Ideas – Elaborations

Accurate processing and preservation of evidence: discussion of recent advances in forensic techniques, as well as some of the current limitations in forensic science investigations

Forensics interrelationships with physics, biology, and chemistry principles: explore how knowledge from other scientific disciplines dictate collection, testing, and analysis of evidence

Computer technology and forensics: discover how computer technology assists evidence analysis, learn how computer evidence can be collected and preserved in investigating digital crimes

Forensic methods and techniques: describe how and why different types of forensic evidence are collected and preserved

Curricular Competencies – Elaborations

Specialty types of forensic science: define the purview and purposes of forensic entomology, anthropology, and odontology in crime scene investigations

Forensic methods and techniques: describe how various types of toxicological, trace, and digital evidence are collected and preserved, as well as what kinds of testing techniques are employed to analyze the evidence

Types of evidence studied: biological (blood samples, organ tissue samples, bones, teeth, soil, insects and arthropods), chemical (paint, drugs, toxins, other trace evidence, historical documents, computer and related devices)

Content – Elaborations

Understand the physical and chemical structures of elements and compounds and how they apply to analyses for drugs, toxins, poisons; recognize that other specialty forensics can assist in determining a person's identity.

Develop good working knowledge of how computers function and how they store information, understand methods used to forensically examine computers for evidence.

Recommended Instructional Components:

Students are engaged in online learning activities that are presented within the online school format, Moodle. The course is designed to be a self-directed, asynchronous course. Instruction is contained in the course layout and content. The teacher will guide students through the interactive content, support them in their learning, and assess their progress.

Recommended Assessment Components: Ensure alignment with the [Communicating Student Learning E-book](#) and the [Principles of Quality Assessment](#)

Learning Resources:

Forensics 12 Integrated Moodle