



Forensic Science 11

Board/Authority Approved Course

North Okanagan Shuswap	School District 83
Developed By: Erinn Milne	Date Developed: June 2019
School Name: Education Outreach Program	Principal's Name: Mr. Rob MacAulay
Superintendent Approval Date:	Superintendent Signature:
Board/Authority Approval Date:	Board/Authority Chair Signature:
Course: Forensic Science	Grade Level of Course: 11
Number of Course Credits: 4	Number of Hours of Instruction: 120

Board/Authority Prerequisite(s):

Not Applicable

Special Training, Facilities, or Equipment Required:

Computer as it is an on-line course.

Course Synopsis:

The world of law enforcement is increasingly making use of the techniques and knowledge from the sciences to better understand the crimes that are committed and to catch those individuals responsible for the crimes. Forensic science applies scientific knowledge to the criminal justice system. This course focuses on some of the techniques and practices used by forensic scientists during a crime scene investigation (CSI). Starting with how clues and data are recorded and preserved, the student will follow evidence trails until the CSI goes to trial, examining how various elements of the crime scene are analyzed and processed.

Goals and Rationale:

Goals:

- Develop an understanding of how forensic scientists analyze evidence for information about crimes.
- Develop knowledge about what information can be gained from human remains, physical evidence, and burned materials.
- Develop an understanding on how forensic scientists recognize and preserve physical evidence.
- Develop an understanding on how forensic scientists investigate crime scenes.

Rationale:

Providing student choice is a key understanding of the new curriculum in BC. This choice needs to go beyond choosing projects or assignments within a course to include choosing entire courses that interest and intrigue students. Through providing a variety of elective courses, students will be able to explore subjects they are passionate about or just curious about. High school students often aren't sure what they want to do after high school. By offering a wide variety of introductory and exploratory courses, students get the opportunity to safely explore the possibilities before committing to a career plan. This course will allow students who are passionate about forensics to follow that passion. At the same time for students who may not know much about forensics, it provides an introduction to the field of study and career possibilities.

Aboriginal Worldviews and Perspectives:

Declaration of First Peoples Principles of Learning:

- Learning is holistic, reflexive, reflective, experiential, and rational.
- Learning involves recognizing the consequences of one's actions.
- Learning is embedded in memory, history, and story.
- Learning involves patience and time.
- Learning requires exploration of one's identity.

Declaration of Aboriginal Worldviews and Perspectives:

- Forensics connects the learner to the stories of other communities and people.
- Forensics introduces the learner to the practical applications of the theories and concepts presented.

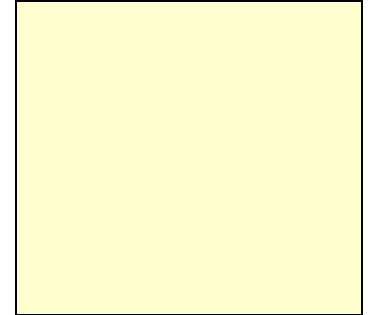
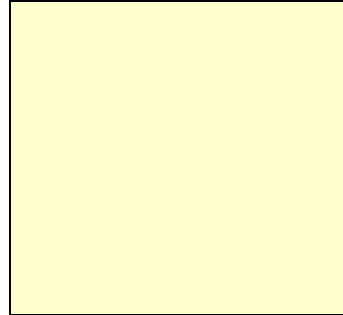
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BIG IDEAS

Forensic science has been developed over time as the criminal justice systems has turned to science to provide reliable information to solve crimes.

Forensic scientists play a critical role in gathering evidence that can be used in court.

Forensic scientists are essential to explaining the scientific value of the evidence to judges and juries.



Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to be able to do the following:</i></p> <ul style="list-style-type: none">Examine some of the considerations in using DNA in court trials.Discuss issues in presenting scientific evidence to a layman jury. <p>Research and Inquiry Application</p> <ul style="list-style-type: none">Demonstrate effective communication skills.Recognize and use critical-thinking skills.Evaluate the reliability of a website and recognize those that are appropriate for use in anthropology.Demonstrate appropriate professional behavior.Demonstrate respect for individual and cultural differences and recognize the importance of diversity in the workplace.	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none">forensic science as a field of study.<ul style="list-style-type: none">the responsibilities of a forensic scientist.the relationship between forensic science and the criminal justice system.the specialty areas within forensic science.collecting evidence is critical to solving crimes<ul style="list-style-type: none">how a crime scene is secured.how forensic scientists and officers search a crime scene for evidence.the different ways in which a crime scene is recorded.how evidence is collected and packaged.why evidence needs to be collected carefully and within legal guidelines.different types of evidence, how they are collected, examined and analyzed<ul style="list-style-type: none">glass fragments

- fingerprints
- hair - DNA
- blood
- impressions - footprints and tire tracks
- firearms and bullet evidence
 - tool marks and striations
 - distance from shooter
- serial numbers
- the difference between individual and class characteristics and what they mean for crime investigations.
 - how physical and chemical properties help forensic scientists compare samples.
- different ways that bodies may decompose.
- ongoing research into decomposition rates.
 - ways to determine the time of death.
- what forensic scientists can learn from a forensic autopsy.
 - what information can be gained from skeletal remains.
- the properties of DNA.
 - how and why DNA can be used as an individual characteristic in forensic science.
 - how biological evidence is best collected and preserved for DNA testing.
 - what tests are used on biological evidence to retrieve DNA information.
- how investigators determine where a fire started and whether accelerants were used.
 - what challenges arson and explosion crime scenes present in the collection, preservation, and analysis of evidence.
 - the different types of explosive materials that may be used in bombs and other explosions.
 - how evidence at an arson scene is collected and tested.
 - the methods used to test for explosive materials at crime scenes.