FORENSIC SCIENCE 11 / BAA FRAMEWORK

District Name: Abbotsford

District Number: 34

Developed by: Silvia-Carmen Comanescu

Date Developed: April 15, 2014

School Name: Rick Hansen Secondary School

Principal's Name: David deWit

Board/Authority Approval date: _____

Board/Authority Signature: _____

Course Name: Forensic Science 11

Grade Level of Course: 11

Number of Course Credits: 4

Numbers of Hours of Instruction: 120

Prerequisite(s): Science 10, Math 10

Special Training: Science degree and a cross-curricular approach, to include English (literature, composition, and communication), social studies, law, psychology, physics, biology, and chemistry, are recommended. In addition, contacts with the local law enforcement agencies are welcome, for field trips and guest speaker sessions.

Facilities or Equipment Required: A regular classroom equipped with computer & projector, Computer Lab, Science Lab, Forensic Kits & a class set of Textbooks (to be purchased – Kendall / Hunt Publishing Co.)

Course Synopsis: Forensic Science 11 is a course designed to encourage and support students' consolidating concepts from science, technology, and humanities and applying them to the real life situation of analyzing evidence at a crime scene. This hands-on approach offers students an engaging opportunity to internalize the scientific method, develop process skills, and promote awareness of civic responsibility and the criminal justice system, while gaining understanding of current and past events through case studies.

The course has three major objectives for student achievement: a solid conceptual background, versatile practical skills, and meaningful self/peer assessment. First, students are introduced to the basics of forensic investigations and the history of forensic science in order to become familiar with the field of study. Next, while assimilating vocabulary and concepts, students apply inter-disciplinary knowledge in a variety of activities, laboratory work, interactive website practice, research, and creative/project-based work that double as

formative/summative assessment. Finally, each student assembles a personal portfolio of projects, personal observations and notes, individual and group work, collected and processed data, sketches, reflections on learning, and creative work, that serves as a performance assessment tool and as supporting evidence for potential post-secondary programs, scholarship and/or job opportunities along the way.

NOTE: *Due to the sensitive nature of some topics present in the forensic science, care has been taken to omit the following topics in this course: entomology, human remains, and firearms.*

Rationale: Forensic Science 11 is an elective science course that aims to enhance scientific literacy, by developing students' critical-thinking and problem-solving skills while applying concepts from various sciences (such as mathematics, physics, biology, chemistry) to the analysis of physical evidence from crime scenes. This course offers students the opportunity to practice science as inquiry and to apply the scientific method of observing, collecting and classifying data, forming and testing a hypothesis, using deductive reasoning to support or refute the hypothesis, and finally formulating a conclusion or opinion about the situation, be it a fictional one or rooted in reality. The course does not meet Science 11 credit.

Furthermore, the course relies on a multidisciplinary approach to learning which also fosters collaborative teaching, addressing concepts from humanities (sociology, psychology, communication, or law) in addition to science and technology. Moreover, the course engages students in a coeducational experience of cooperative learning, where students work together in investigative teams, brainstorm ideas, and self-manage tasks and projects with minimum direction from the teacher, simulating real-life situations.

Finally, this applied science course, by its inquiry-based, project/activity-driven nature, and its high-interest course content, requires observation, communication, and organization skills, thus benefitting the overall learning experience of the students, and motivating them to develop their study and process skills in an engaging and meaningful way toward personal development and toward relating school work to life.

Organizational Structure: Unit Description

Unit	*Title*	*Time*
Unit 1	**The Basics of Forensic Investigations**	**20**
Unit 2	**Evidence Analysis 1: Fingerprints, Hairs, and Fibres**	**25**
Unit 3	**Evidence Analysis 2: Drugs, Poisons, and Alcohol**	**15**
Unit 4	**Evidence Analysis 3: Trace Evidence, Soil, and Glass**	**15**
Unit 5	**Evidence Analysis 4: Blood and DNA**	**20**
Unit 6	**E.A.5: Impressions, Handwriting, Counterfeiting, and Cybercrime**	**15**
Unit 7	**Synthesis of Processed Evidence**	**10**
	Total Hours	**120**

Assessment

Unit	*Title*	*Percentage*
Unit 1	**The Basics of Forensic Investigations**	**10**
Unit 2	**Evidence Analysis 1: Fingerprints, Hairs, and Fibres**	**8**
Unit 3	**Evidence Analysis 2: Drugs, Poisons, and Alcohol**	**8**
Unit 4	**Evidence Analysis 3: Trace Evidence, Soil, and Glass**	**8**
Unit 5	**Evidence Analysis 4: Blood and DNA**	**8**
Unit 6	**E.A.5: Impressions, Handwriting, Counterfeiting, and Cybercrime**	**8**
	**** Portfolio (Individual)***	***50***
Unit 7	**Synthesis of Processed Evidence**	**50**
	**** Final Project (Group)***	***50***
	Total Percentage	**100**

Unit/Topic/Module Descriptions

Unit 1: The Basics of Forensic Investigations **Time: 20 Hours**

Overview:
This opening unit introduces students to the discipline of forensic science through highlights in its historic development, and provides a solid basis for the course through definitions of terms (such as forensics, evidence, crime scene, crime scene investigation etc.), description of crime laboratories, the forensic scientist's profession, main goal, and methodology of investigation (scientific method and the Locard Exchange Principle), and through classification of crimes, laws, and evidence. The objective of this unit is an integrated view of forensic science as the interaction between science, technology, and law.

Curriculum Organizer & Learning Outcomes

It is expected that students will:

- Understand and demonstrate laboratory safety procedures
- Explain and provide examples in the evolution of forensic science
- Describe the scientific method and its application to solve forensic problems
- Identify questions for scientific investigations
- Communicate and defend a scientific argument
- Describe the work performed by forensic scientists and experts in a crime lab
- Explain and demonstrate the Locard Exchange Principle throughout their forensics investigations
- Understand the role of taxonomy in classifying and sorting evidence and crimes
- Compare and contrast indirect and direct evidence
- Describe and exemplify physical evidence
- Differentiate between class and individual evidence
- Demonstrate understanding of the criminal judicial system and the laws associated with it

- Demonstrate understanding of the Canadian criminal law
- Describe levels of Police in Canada
- Discuss criminal law and young people in Canada
- Discuss the value of evidence in a court of law
- Recognize the limitations of eyewitness accounts
- Specify the limitations of physical evidence in court
- Explain the concept of "chain of custody" and its importance in an investigation

Instructional Components/Strategies

- See page 10 for details

Assessment/Success Criteria for This Unit

- Organize and present information in an accessible way through the Science Notebook (ongoing)
- Utilize specialized vocabulary in reporting
- Search, isolate, and record evidence at a mock crime scene
- Demonstrate proper procedures for collecting and packaging evidence
- Make connections to historical developments in forensics science through a Jigsaw Activity

Unit 2: Fingerprints, Hairs, and Fibres **Time: 25 Hours**

Overview:
This unit deals with evidence analysis, focusing on fingerprints, hairs, and fibres. Students learn that fingerprints are individual evidence that may or may not be present at a crime scene, and how computer technology has impacted the process of personal identification; that hair and fibres are class evidence that can back up circumstantial evidence linking victim, suspect, and crime scene, and that through hair there is a substance exchange between the body and the external environment. In addition, students understand the role of statistics in determining the value of evidence and have the opportunity to process fingerprints and hair and fibre samples.

Curriculum Organizer & Learning Outcomes

It is expected that students will:

- Understand & apply physical and chemical methods to develop latent prints
- Demonstrate the proper method for obtaining inked, readable fingerprints for each finger
- Define the basic properties for fingerprint identification
- Recognize and classify ridge patterns (loops, whorls, and arches)
- Explain how to use points of identification to compare fingerprints
- Differentiate between latent, plastic, and visible fingerprints
- Describe the structure of a hair using a compound microscope
- Compare and contrast human and animal hair specimens
- Assess the probative value of hair and fibre in an investigation
- Understand the role of statistics in sample populations of hair & fibres when analyzing evidence
- Explain the process of polymerization as it pertains to fibre evidence
- Design and carry out an experiment in thin-layer chromatography

Instructional Components/Strategies

- See page 9 for details

Assessment/Success Criteria for This Unit

- Use physical and chemical methods to develop latent prints
- Obtain inked, readable fingerprints for each finger
- Use points of identification to compare fingerprints
- Differentiate hair samples and analyze collected hair samples from the crime scene
- Use statistical analysis to sample populations of hair & fibres
- Report and analyze the results from the thin-layer chromatography experiment

Unit 3: Drugs, Poisons, and Alcohol **Time: 15 Hours**

Overview:
This unit continues with evidence analysis and aims at emphasizing the dangers of using and abusing prescription drugs, controlled substances, alcohol, and over-the-counter medication, by presenting detailed descriptions of substances and prompting students to apply deductive reasoning to analytical data. Students learn about the limitations of tests and compare and contrast qualitative and quantitative analysis. In addition, students have the opportunity to critically think and debate whether or not tobacco should be included in the drug-testing programs in schools.

Curriculum Organizer & Learning Outcomes

It is expected that students will:

- Understand the role of drug collection and analysis in a criminal investigation
- Classify the types of illicit drugs and explain their negative effects
- Discuss the legal penalties for possession and use of controlled substances
- Define and explain what confirmatory tests are
- Describe the technology behind testing drugs (IR, UV-VIS spectroscopy and GC-MS analysis) and explain its use in forensic science
- Understand how reference materials (such as the Physician's Desk Reference) can be used to identify medications and their effects on the consumer
- Correlate blood alcohol, and breath test results with relation to levels of impairment
- Explain how a breathalyser works
- Demonstrate understanding of how technology and mathematics can improve investigations and communication

Instructional Components/Strategies

- See page 9 for details

Assessment/Success Criteria for This Unit

- Use graphs to represent and interpret data from a toxicology report
- Use reference materials to identify medication found at a mock crime scene
- Summarize the different ways to process toxicology information in an investigation
- Write a paragraph stating your probable explanation for the role that medication played in the investigated crime

Unit 4: Trace Evidence, Soil, and Glass **Time: 15 Hours**

Overview:
This unit continues with evidence analysis and focuses on trace evidence, soil, and glass. Students revisit chemistry concepts about the atomic structure of elements and investigate how to determine metal composition using flame tests. Furthermore, students learn how to collect lip prints and paint chips and analyze lipstick with thin-layer chromatography. In addition, students revisit physics concepts such as the properties of light (reflection and refraction), crystalline structure, density, and buoyancy.

Curriculum Organizer & Learning Outcomes

It is expected that students will:

- Understand how pieces of evidence such as trace evidence, soil, and glass contribute to interpreting the crime scene
- Discuss the role of metals in environmental contamination
- Identify traces of white powder and metals
- Classify lip prints
- Compare paint chips from hit-and-run accidents.
- Understand how to classify soils and glass
- Identify common constituents of soil and relate soil type to the environment
- Explain how to use a topographic map to determine the location of a soil sample
- Explain how a Galileo thermometer works
- Explain the concept and applications of spectrophotometry and relate it to glass analysis
- Calculate the refractive index of glass fragments
- Identify glass fracture patterns in various crime scenarios

Instructional Components/Strategies
- See page 9 for details

Assessment/Success Criteria for This Unit

- Compare and contrast class evidence and individual evidence
- Demonstrate how to make density measurements on very small soil particles using a Galileo thermometer
- Use a topographic map to determine the location of a soil sample from the crime scene and provide sound reasoning for their hypothesis
- Analyze glass fracture patterns in the investigated crime scene

Unit 5: Blood and DNA Analysis **Time: 20 Hours**

Overview:
This unit continues with evidence analysis and focuses on blood and DNA. Students learn how to determine the blood nature of a stain, distinguish human blood from animal blood, explore bloodstain patterns, and use the ABO/Rh classification system to identify the blood type, as well as determine whether a blood spatter comes from a right-handed or a left-handed person. Also, students study the basic concepts about DNA: type of polymer, how it is extracted and characterized, and how it can be used to identify or exonerate potential crime suspects. In addition, students have an opportunity to apply knowledge from mathematics and explain how statistics is employed to calculate probabilities of identity using Short Tandem Repeats. Students with a manifested interest in biology may opt for conducting a virtual autopsy using the interactive website.

Curriculum Organizer & Learning Outcomes

It is expected that students will:

- Understand of role of blood and DNA analysis in a crime scene investigation
- Discuss the agglutination process of antibodies and antigens
- Identify bloodstains
- Differentiate human blood and animal blood
- Explain the ABO/Rh classification system
- Determine the blood type of a simulated bloodstain
- Demonstrate understanding of variables in blood spatter patterns
- Compare and contrast confirmatory and presumptive tests in analyzing blood samples
- Explain what DNA is and how it uniquely identifies an individual being (such as humans, animals, plants, etc.)
- Characterize DNA using the concepts of RFLP, PCR, and STR
- Understand how to isolate and extract DNA from a sample
- Describe the function and purpose of a restriction enzyme in DNA analysis
- Explain the process of electrophoresis

Instructional Components/Strategies

- See page 9 for details

Assessment/Success Criteria for This Unit

- Isolate and extract DNA from fruit
- Sketch and label a cell diagram for both plants and animals
- Conduct a virtual autopsy
- Process and record data from blood and DNA evidence collected at the investigated crime scene
- Apply the information from processing the blood & DNA evidence to formulating additional hypotheses about the investigated crime

Unit 6: Impressions, Handwriting, Counterfeiting, and Cybercrime Time: 15 Hours

Overview:
This unit concludes the evidence analysis, by focusing on impressions (tool marks, shoeprints, and tire treads), document and handwriting analysis (forgery and counterfeiting), and computer crime. Students learn how class and individual evidence can answer different questions in forensic science, how to make casts of different types of impressions, analyze their own handwriting, and recognize some of the methods of Internet fraud. In addition, students practice how to evaluate and present scientific data, and communicate and defend a scientific argument.

Curriculum Organizer & Learning Outcomes

It is expected that students will:

- Understand how the analysis of impressions, documents, and cybercrime can contribute to solving a crime
- Understand that impressions can be used to classify tools, shoes, and tires
- Discuss the use of tire marks in the reconstruction of accidents
- Discover the correlation between shoe size to height using statistical reasoning
- Characterize personal handwriting using 12 points of analysis
- Detect deliberately disguised handwriting

- Differentiate types of forgery
- Explain what a watermark is and how it is made
- Understand how erasures on paper can be detected under UV light
- Describe how inks can be analyzed using paper chromatography
- Describe types of criminal activity on the Internet
- Explain the concept of computer forensics

Instructional Components/Strategies

- See page 9 for details

Assessment/Success Criteria for This Unit

- Match an assortment of hand tools to their tool marks
- Cast and analyze shoe prints
- Use statistics to correlate shoe size to height in a class and school setting
- Analyze personal handwriting and compare it to the handwriting of others
- Detect erasures on paper and examine them in UV light
- Compare inks using paper chromatography
- Examine paper money using UV light and a stereomicroscope
- Apply knowledge of impressions, document analysis, and cybercrime to further formulate explanations at the investigated crime scene

Unit 7: Synthesis of Processed Evidence **Time: 10 Hours**

Overview:
In this unit, students learn how to formulate their final theory following the scientific methodology, based on the analysis of the evidence they have processed during the course. Students will learn how to fine-tune their reports and how to display their findings in a clear, consistent, and persuasive manner, using sound reasoning and informed judgement. As a final summative assessment, students will submit their team investigative report along with their personal Science Notebook with reflections.

It is expected that the students will:

- Compile the processed evidence and analyze it in order to reconstruct the crime scene
- Interpret the evidence gathered to determine the perpetrator in the crime scenario
- Justify the reasoning behind the interpretation based on the scientific method
- Articulate their group's findings into an accessible format of their choice (such as scene re-enactments, PowerPoint presentations, role play, video/TV productions etc.)
- Reflect on their learning experience throughout this course

Instructional Components/Strategies

- See page 10 for details

Assessment/Success Criteria for This Unit

- Create and update a Reflection Journal that showcases self-assessment expressing personal thoughts and feelings regarding the learning process and the material studied
- Sketch and provide details explanations for their reconstruction
- Complete a forensic science investigations report

Instructional Components / Strategies (description of activities)

- **Direct Instruction:** Provide classroom lectures on the topic of study, handouts for drill and practice, and other teaching aids, clarify concepts, provide structured overview, review, and thinking questions, assist with vocabulary for ESL students
- **Indirect Instruction:** Facilitate and monitor how students apply the scientific method of observing, collecting and processing data, and using inductive and deductive reasoning to formulate and test hypotheses.
- **Interactive Instruction:** Monitor discussions in class, computer lab activities, and laboratory work, and integrate technology into the instruction
- **Independent Instruction:** Supervise student research activities and Think-Pair-Share assignments
- **Demonstration activities:** Model laboratory procedures while providing demonstrations for activities that are too dangerous or costly to be performed by students
- **Practical Creativity:** Provide opportunities for students to reorganize or present information in a creative manner, as well as encourage self expression
- **Brainstorming:** Engage students in brainstorming and mind mapping techniques that expand students' tools for organizing information and assessing a situation
- **Team Work:** Monitor student participation in Investigative Teams and supervise cooperative learning
- **Reflection & Self-Assessment:** Reflect and provide feedback at the end of laboratory activities, PowerPoint/Project presentations, and other formative and summative assessments; have students complete self-assessment and peer-assessment rubrics

Assessment Components / Strategies (including rubrics)

Formative:

- Provide observations on students' individual and collective work
- Facilitate pair or group discussions
- Mentor students and support completion of self and peer assessments
- Monitor completion of in-class assignments, and computer research
- Revise and provide constructive criticism for project drafts
- Provide feedback on the acquisition of academic and specialty vocabulary
- Encourage students to use local and provincial media resources to discuss current events that may have any connection with the topic studied
- Guide students as they conduct debates and discussions on case studies
- Provide checklists and rubrics for assessing laboratory work and projects

Summative:

- Monitor student progress through standardized Quizzes and Tests
- Provide additional feedback to self and peer assessment
- Implement rubrics and checklists for assessment
- Evaluate laboratory reports, PowerPoint presentations, and projects
- Promote performance assessment (such as role-plays, art work, fiction writing, or movie production) as an alternative form of assessment to standardized tools
- Evaluate the impact of Reflection Journal on student learning
- Coordinate completion of personal Portfolio and Final Project

Details on Final Assessment:

Final assessment in this course has two components equally important: the individual portfolio and the group project. The rationale behind this approach is supported by the nature of cooperative learning that engages students in sharing information and collaborating to solve problems as a group (investigative team) while at the same time holding each team member accountable for his or her own knowledge. At each unit studied, students gather and process information, ask questions and conduct experiments, reflect and organize their findings, thus contributing piece by piece to their personal expertise showcased in the individual portfolio. This portfolio is evidence of the students taking ownership of learning at the individual level. In the final unit, students have an opportunity to see their personal effort in perspective and fine-tune, at the group level, their understanding of the material presented throughout the course. Students then apply their problem-solving and critical-thinking skills in a group project that demonstrates mastery of concepts, processes, presentation, and student interaction.

Learning Resources

1. ***Textbook:***

Ball-Deslich, B. & Funkhouser, J. (2nd ed. 2009). *Forensic Science for High School.* Kendall / Hunt Publishing Company; Dubuque, Iowa.

2. ***Websites/Software:***

- Virtual Autopsies. Provided by the publisher: kendallhunt.com/forensics
- Cohesive Assessment System. Provided by the publisher: kendallhunt.com/forensics
- Interactive Website for Students. Provided by the publisher: kendallhunt.com/forensics
- Test Generator. Provided by the publisher: kendallhunt.com/forensics
- Resources created by the National Science Teachers Association. www.scilinks.org
- Canada's Justice System. http://www.justice.gc.ca/eng/csj-sjc/just
- Eyewitness Reliability. http://www.scientificamerican.com/article/do-the-eyes-have-it
- Processing Fingerprints. http://www.fbi.gov/about-us/lab/forensic-science-communications/fsc/jan2001/lpu.pdf
- Biology of Hair. http://www.keratin.com
- Polymers. http://www.pslc.ws/mactest/maindir.htm
- Index of drugs. http://www.rxlist.com/script/main/hp.asp
- Common Household Materials. http://www.chymist.com/Common%20chemicals.pdf
- Computerized Blood Spatter Analysis. http://people.physics.carleton.ca/~carter
- DNA Technologies & Human Genome Project http://web.ornl.gov/sci/techresources/Human_Genome/publicat/tko/tko.pdf
- Handwriting. http://qdewill.com/theory.html
- Crime Scene. http://www.centredessciencesdemontreal.com/static/autopsy/flash.htm
- Collecting Evidence. www.crime-scene-investigator.net/csi-video.html
- CSI The Experience: Web Adventures. http://forensics.rice.edu
- Canadian Heritage Information Network: Virtual Museum. www.crime-scene-investigator.net/csi-video.html

3. ***Other Sources:***

Blair, A. et al. (2nd ed. 2009). *Law In Action: Understanding Canadian Law.* Pearson Education Canada.

Additional Information

1. Parents will be provided with a Letter of Consent for students to practice the activity of collecting, analyzing, and safely discarding of fingerprints.

2. Estimated cost for resources from Kendall/Hunt Publishing Co.

Kendall Hunt
publishing company

Forensic Science for High School, Second Edition

Customer Service 800.770.3544

2012-13 Pricing

			Quantity	Total
Student Text + 6 Year Online License	978-0-7575-8551-7	$85.98	31	
Student 6 Year Online License	978-0-7575-8554-8	$38.15		
Teacher Text + 6 Year Online License	978-0-7575-8552-4	$180.56	1	
Teacher 6 Year Online License	978-0-7575-8555-5	$144.68		
Let's Think Forensics Assessment Workbook	978-0-7575-4868-0	$63.93	1	
KH Cohesive Assessment System	978-1-4652-1218-4	$199.99	1	
eChapter 1: Introduction to Forensic Science & the Law				
Student 1 Year Online License	978-0-7575-6347-8	$5.82		
Teacher 1 Year Online License	978-0-7575-6365-2	$11.65		
eChapter 2: Types of Evidence				
Student 1 Year Online License	978-0-7575-6348-5	$5.82		
Teacher 1 Year Online License	978-0-7575-6366-9	$11.65		
eChapter 3: The Crime Scene				
Student 1 Year Online License	978-0-7575-6349-2	$5.82		
Teacher 1 Year Online License	978-0-7575-6367-6	$11.65		
eChapter 4: Fingerprints				
Student 1 Year Online License	978-0-7575-6352-2	$5.82		
Teacher 1 Year Online License	978-0-7575-6368-3	$11.65		
eChapter 5: Hair				
Student 1 Year Online License	978-0-7575-	$5.82		

	6351-5			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6370-6			
eChapter 6: Fibers				
	978-0-7575-	$5.82		
Student 1 Year Online License	6354-6			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6372-0			
eChapter 7: Drugs				
	978-0-7575-	$5.82		
Student 1 Year Online License	6355-3			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6373-7			
eChapter 8: Toxicology: Poisions & Alcohol				
	978-0-7575-	$5.82		
Student 1 Year Online License	6356-0			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6374-4			
eChapter 9: Trace Evidence				
	978-0-7575-	$5.82		
Student 1 Year Online License	6357-7			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6375-1			
eChapter 10: Soil and Grace Analysis				
	978-0-7575-	$5.82		
Student 1 Year Online License	6358-4			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6376-8			
eChapter 11: Blood				
	978-0-7575-	$5.82		
Student 1 Year Online License	6359-1			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6377-5			
eChapter 12: DNA Analysis				
	978-0-7575-	$5.82		
Student 1 Year Online License	6360-7			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6378-2			
eChapter 13: Forensic Entomology				
	978-0-7575-	$5.82		
Student 1 Year Online License	6361-4			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6379-9			
eChapter 14: Human Remains				
	978-0-7575-	$5.82		
Student 1 Year Online License	6362-1			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6380-5			
eChapter 15: Firearms, Toolmarks, & Impressions				
	978-0-7575-	$5.82		
Student 1 Year Online License	6363-8			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6381-2			
eChapter 16: Document & Handwriting Analysis				
	978-0-7575-	$5.82		
Student 1 Year Online License	6364-5			
	978-0-7575-	$11.65		
Teacher 1 Year Online License	6382-9			

Consumable Kit**	978-0-7575-5925-9	$1,272.37	_____	_____
Non-Consumable Kit*	978-0-7575-5926-6	$335.91	_____	_____
Chemical Kit**	978-0-7575-5924-2	$2,009.49	_____	_____
Labware Kit*	978-0-7575-5923-6	$1,392.00	_____	_____
Safety Kit*	978-0-7575-5922-8	$360.87	_____	_____
Equipment Kit	978-0-7575-4020-2		_____	_____
Customized Kit	978-0-7575-2616-9		_____	_____
			Total	_____

Kit Explanation:

*** = 1 needed per teacher**

**** = 1 needed per class/section**

If you would like to custom order materials or equipment for your classroom, simply indicate which items you would like to purchase and your Kendall Hunt Sales Representative can provide you with a custom quote.

N. B. Contacted Becky Seymour bseymour@kendallhunt.com for info.
Sales representative for Canada is Julie Bassler
(JBassler@kendallhunt.com)
Tel 1-800-228-0810 (prepayment in US funds, 8-10 days for delivery)