Lexington High School

Forensic Law

TEACHER: Mr. Ben Klein
ROOM: #802
PERIODS: 3rd

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COURSE: Forensic Law

TEXT: *Forensic Science Fundamentals & Investigations* by Anthony J. Bertino (2012).

COURSE DESCRIPTION: The application of scientific technology to supply *accurate* and *objective* information reflecting the events that occurred at a crime. This course is designed to utilize and apply scientific processes and principles to crime scene investigations.

COURSE TOPICS:
- Fingerprinting
- Ballistics
- Glass Fragmentation
- Fire Debris
- Hair & Blood Detection
- DNA Analysis

REQUIRED MATERIALS:
- 1 or 1 & 1/2 inch 3 ring binder
- Loose leaf notebook paper (college ruled)
- Pencil/pen (Several assorted colors will be useful)
- iPad

ASSIGNMENT MAKE-UP:
To receive full credit for every assignment homework must be turned in on time. In order to comply with current school policy students must turn in work prior to leaving for school sponsored activities. If assignment is not turned in prior to school sponsored absence district protocol will be followed. Unless prior arrangements have been made with me. In the event you are absent when an assignment is due you will have 1 week to turn that missed assignment in to me.

GRADING BREAKDOWN:
Semester Grade Breakdown

45% - Q1
45% - Q2
10% - Semester Exam

Quarter Grade Breakdown

50% - Assessments (Any labs will count as a test grade)
20% - Participation
30% - Homework

PARTICIPATION:
To comply with current district policy this class will enact the following action. Every day you will be given 5 points for participation. Those points will be totaled up at the end of the week.

Additionally participation points will be taken away for, and not limited to, late work, absence from class, etc. Those points can be earned back once a make up plan has been established with the teacher.

Points lost due to tardy, detentions, misbehavior, class time missed due to suspension, or other grossly negligent behaviors that cause loss of instructional time cannot be recovered.

CHEATING:
Academic dishonesty in any form will not be tolerated. Examples include, but are not limited to, plagiarism, crib sheets, looking off fellow students, speaking with fellow students during quizzes or exams to name a few.

LABORATORY EXPECTATIONS:
The goal is to have as many labs done as possible. If students (you) feel as though you cannot perform a lab, the student should notify the teacher no less than 24 hours ahead of time so that an alternative assignment or change to the lab can be made. Students receive points for participating in labs. As with all labs in school, students are expected to follow the laboratory safety procedures and practices listed in the succeeding page(s). Students that fail to adhere to those procedures and practices become a danger to both themselves and those in the room with them. Laboratory safety violations may result in the student being banned from all labs for the remainder of the semester.

OTHER USEFUL INFORMATION:

- You should plan on spending between 30-60 minutes A DAY outside of this class reviewing material. Learning happens the best when you are exposed to the information consistently and constantly.
- You will most likely have to do some Field work outside of school time. Make sure prior to entering any private property for plant collections make sure you have permission from the land owner.
- I am available nearly anytime via email to answer questions about concepts/ problems in class. Also before/after school is great if you need one-on-one assistance.

GENERAL LAB RULES:

1. Conduct yourself in a responsible manner at all times in the laboratory.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding.
3. Never work alone. No student may work in the laboratory without an instructor present.
4. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.
5. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
6. Perform only those experiments authorized by the instructor. Never do anything in the laboratory that is not called for in the laboratory procedures or by your instructor. Carefully follow all instructions, both written and oral. Unauthorized experiments are prohibited.
7. Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory.
8. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times. Bring only your laboratory instructions, worksheets, and/or reports to the work area. Other materials (books, purses, backpacks, etc.) should be stored in the classroom area.
10. Keep aisles clear. Push your chair under the desk when not in use.
11. Know the locations and operating procedures, where appropriate, for all safety equipment including first aid kit, eyewash station, safety shower, fire extinguisher, and fire blanket. Know where the fire alarm and exits are located.
12. Always work in a well-ventilated area. Use the fume hood when working with volatile substances or poisonous vapors. Never place your head into the fume hood.
13. Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
14. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water and those solutions designated by the instructor. Solid chemicals, metals, matches, filter paper, and all other insoluble materials are to be disposed of in the proper waste containers, not in the sink. Check the label of all waste containers twice before adding your chemical waste to the container.
15. Labels and equipment instructions must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
16. Keep hands away from face, eyes, mouth, and body while using chemicals or preserved specimens. Wash your hands with soap and water after performing all experiments. Clean all work surfaces and apparatus at the end of the experiment. Return all equipment clean and in working order to the proper storage area.
17. Experiments must be personally monitored at all times. You will be assigned a laboratory station at which to work. Do not wander around the room, distract other students, or interfere with the laboratory experiments of others.
18. Students are never permitted in the science storage rooms or preparation areas unless given specific permission by their instructor.
19. Know what to do if there is a fire drill during a laboratory period; containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
20. Handle all living organisms used in a laboratory activity in a humane manner. Preserved biological materials are to be treated with respect and disposed of properly.

21. When using knives and other sharp instruments, always carry with tips and points pointing down and away. Always cut away from your body. Never try to catch falling sharp instruments. Grasp sharp instruments only by the handles.
22. If you have a medical condition (e.g., allergies, pregnancy, etc.), check with your physician prior to working in lab.

CLOTHING

1. Any time chemicals, heat, or glassware are used, students will wear laboratory goggles. There will be no exceptions to this rule!
2. Contact lenses may be worn provided adequate face and eye protection is provided by specially marked, non-vented safety goggles. The instructor should know which students are wearing contact lenses in the event of eye exposure to hazardous chemicals.
3. Dress properly for lab activities. Long hair, dangling jewelry, and loose or baggy clothing are hazardous. Long hair must be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed.
4. Lab aprons have been provided for your use and should be worn during laboratory activities. ACCIDENTS AND INJURIES
5. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
6. If you or your lab partner are hurt, immediately yell out "Code one, Code one" to get the instructor's attention.
7. If a chemical splashes in your eye(s) or on your skin, immediately flush with running water from the eyewash station or safety shower for at least 20 minutes. Notify the instructor immediately.
8. When mercury thermometers are broken, mercury must not be touched. Notify the instructor immediately.

HANDLING CHEMICALS

1. All chemicals in the laboratory are to be considered dangerous. Do not touch, taste, or smell any chemicals unless specifically instructed to do so. The proper technique for wafting chemical vapors will be demonstrated to you.
2. Check the label on chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
3. Never return unused chemicals to their original containers. Never use mouth suction to fill a pipet. Use a rubber bulb or pipet pump.
4. When transferring reagents from one container to another, hold the containers away from your body.
5. Acids must be handled with extreme care. You will be shown the proper method for diluting strong acids. Always add acid to water, swirl or stir the solution and be careful of the heat produced, particularly with sulfuric acid.
6. Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.
7. Never remove chemicals or other materials from the laboratory area.
8. Take great care when transporting acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully. HANDLING

GLASSWARE AND EQUIPMENT

1. Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage and injury.
2. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken or waste glassware in the designated glass disposal container.
3. Inserting and removing glass tubing from rubber stoppers can be dangerous. Always lubricate glassware (tubing, thistle tubes, thermometers, etc.) before attempting to insert it in a stopper. Always protect your hands with towels or cotton gloves when inserting glass tubing into, or removing it from, a rubber stopper. If a piece of glassware becomes "frozen" in a stopper, take it to your instructor for removal.
4. Fill wash bottles only with distilled water and use only as intended, e.g., rinsing glassware and equipment, or adding water to a container. When removing an electrical plug from its socket, grasp the plug, not the electrical cord. Hands must be completely dry before touching an electrical switch, plug, or outlet.
5. Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
6. Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
7. If you do not understand how to use a piece of equipment, ask the instructor for help.
8. Do not immerse hot glassware in cold water; it may shatter.

HEATING SUBSTANCES

1. Exercise extreme caution when using a gas burner. Take care that hair, clothing and hands are a safe distance from the flame at all times. Do not put any substance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light gas (or alcohol) burners only as instructed by the teacher.
2. Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner or hot plate off when not in use.
3. You will be instructed in the proper method of heating and boiling liquids in test tubes. Do not point the open end of a test tube being heated at yourself or anyone else.
4. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs or heat-protective gloves if necessary.
5. Never look into a container that is being heated.
6. Do not place hot apparatus directly on the laboratory desk. Always use an insulating pad. Allow plenty of time for hot apparatus to cool before touching it.
7. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass have the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.

**All of the preceding rules and best practices have been adapted from Flinn Scientific's "Safety Contract."*