**FORENSIC SCIENCE COURSE SYLLABUS**

**2013-2014**

**Thomas County Central High School**

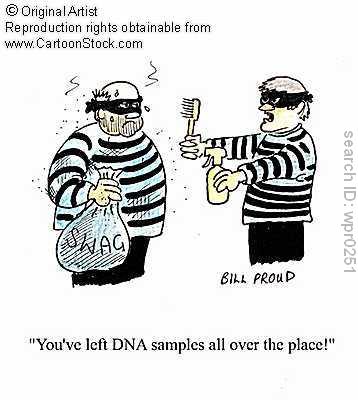
**Teacher: Scott Sweeting Ed.S**

**Phone Number: 229-225-5050**

**Room Numbers:** E-19

**Email:** ssweeting@thomas.k12.ga.us

(Email above is best way to reach me)

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**Course Description:**

The Forensic Science curriculum is designed to build upon science concepts and to apply science to the investigation of crime scenes. It serves as a fourth year of science for graduation and may serve in selected Career Technology programs. Students will learn the scientific protocols for analyzing a crime scene, how to use chemical and physical separation methods to isolate and identify materials, how to analyze biological evidence and the criminal use of tools, including impressions from firearms, tool marks, arson, and explosive evidence.

**GPS Standards/ Objectives:**

**SFS1**. Students will recognize and classify various types of evidence in relation to the definition and scope of Forensic Science.

**SFS2**. Students will use various scientific techniques to analyze physical and trace evidence.

**SFS3**. Students will analyze the use of toxicology, serology, and DNA technology in forensic investigations.

**SFS4** Students will evaluate the role of ballistics, tool marks and evidence of arson in forensic investigation.

**SFS5** Students will evaluate the role of Forensics as it pertains to Medicolegal Death Investigation.

**Textbook, Cost, and Responsibility Statement**

**Text:** Forensic Science by Richard Saferstein. Cost: $83.26

Students may check out a book from time to time. Please see me first since the classroom book supply is very limited to just a class set. Students will be responsible for any textbook that is lost or stolen while in their care.

**Student Evaluation:**

**Tests, Quizzes and Projects**: **40%**

**Class work & HW**: **30%**

**Labs**: **20%**

**Benchmark Tests**: **10%**

**Grading Scale:**

A 90 – 100

B 80 – 89

C 70 – 79

F 0 –69

**Required Materials:**

3-ringed 2” binder

College ruled paper

Blue or black pens

Pencils

Highlighters (your favorite colors)

**Optional Materials:** These are supplies we will use for various assignments throughout the year. Students may purchase their own or donate to the class**.**

* Colored Pencils and Markers
* Post-It Notes
* Small scissors (preferably pointed tip)
* Glue sticks
* Computer paper
* Small pencil sharpeners
* Tissues and Paper towels
* Hand Sanitizer and Soap
* Rulers

**Special Needs Statement:**  
In accordance with the Americans with Disabilities Act, arrangements will be made for students who require special assistance due to a disability. If you require some assistance, do not hesitate to inform the instructor.

**Reading In Content Area:**  
In compliance with GPS science characteristics, all students will be required to read content related materials to enhance the curriculum. Reading requirements include current articles and completion of “*The Christopher Killer”*. According to SCSh9. Students will enhance reading in all curriculum areas by: Reading in all curriculum areas and reading both informational and fictional texts in a variety of genres and modes of discourse.

**Teacher Expectations:**

1. Be punctual

2. Wear pants at the Waistline

3. Be considerate

4. Eating and drinking in the cafeteria only

5. Adhering to all TCCHS policies (see your student handbook)

**6. All required supplies should be brought to class every day.**

**Consequences, clear and concise**

1. Verbal warning/Redirection

2. Alternative seating /Assignment

3. Student Conference

4. Parent contact

5. Administrative referral

Test Retake policy

There are NO Test Retakes

**Late Work Policy**

Classwork and homework is MANDATORY. Late assignments will be graded with a 20% deduction for each class after the due date.

**Make-Up Work Policy**

All students will be eligible to complete make-up work. Students are responsible for getting any work missed during the absence. I HIGHLY recommend that students check with a fellow classmate before returning to class, especially if the student has missed more than two class periods. Students have the number of days missed to turn in make-up work for full credit. For example, a student who missed two days of class has two class meetings to turn in the make-up work for full credit. Make-up work not completed in a timely fashion will be considered late and will be graded per the late work policy. Quizzes CANNOT be made-up. Missing quiz grades will be replaced with the test grade for that unit.

**Cheating/Plagiarism**

Cheating in any form will not be tolerated. Copying someone else’s answers on a quiz or test will result in loss of points on that assessment, and possibly a grade of zero. Repeat offenses will result in a phone call home and possible referral to your Administrator.

According to Merriam-Webster’s Dictionary, **plagiarism** is defined as: 1.to steal and pass off (the ideas or words of another) as one's own 2.to use (another's production) without crediting the source 3.to commit literary theft 4.to present as new and original an idea or product derived from an existing source. For more information on plagiarism, see [www.plagiarism.org](http://www.plagiarism.org).

**Course Outline:**

Introduction to Forensic Science

The Crime Scene

Physical Evidence

Properties of matter and the analysis of glass

Drugs

Forensic Toxicology

The Microscope

Forensic serology

DNA

Types of Trace Evidence (hair, fibers, metals, paint, soil, etc.)

Forensic aspects of fire and explosive investigation

Fingerprints

Fire arms, Tool marks, and other impressions

Document Examination

Computer Forensics

Forensic Science and the internet

Careers in Forensic Science

**GPS Forensic Science Standards**

**SFS1.** Students will recognize and classify various types of evidence in relation to the definition and scope of Forensic Science.

a. Compare and contrast the history of scientific forensic techniques used in collecting and submitting evidence for admissibility in court (e.g. Locard’s Exchange Principle, Frye standard, Daubert ruling).

b. Distinguish and categorize physical and trace evidence (e.g. ballistics, drugs, fibers, fingerprints, glass, hair, metal, lip prints, soil, and toxins).

c. Determine the proper techniques to search, isolate, collect, and record physical and trace evidence.

d. Evaluate the relevance of possible evidence at the site of an investigation.

e. Organize relevant information to accurately develop and submit both scene and analysis reports.

**SFS2. Students will use various scientific techniques to analyze physical and trace evidence.**

a. Identify and utilize appropriate techniques used to lift and evaluate readable, latent, plastic and visible fingerprints.

b. Analyze the morphology and types of hair, fibers, soil and glass.

c. Evaluate how post mortem changes are used to determine probable time of death:

Rigor mortis Livor mortis Algor mortis Gastric contents

d. Identify methods used for the evaluation of handwriting and document evidence.

e. Determine the appropriate uses of chromatography and spectroscopy in evidence analysis.

**SFS3. Students will analyze the use of toxicology, serology, and DNA technology in forensic**

**investigations.**

a. Classify toxins and their effects on the body.

b. Compare the effects of alcohol on blood alcohol levels with regard to gender, and according to the law.

c. Evaluate forensic techniques used to isolate toxins in the body.

d. Differentiate the forensic techniques used to distinguish human and animal blood

e. Analyze the physics of bloodstain patterns.

f. Compare short tandem repeat patterns (STR) and relate to

identifying the DNA of an individual.

g. Explain the use of the DNA database for DNA profiling.

**SFS4 Students will evaluate the role of ballistics, tool marks and evidence of arson in forensic**

**investigation.**

a. Identify firearm lab tests used to distinguish the characteristics of ballistics and cartridge cases.

b. Analyze the physics of ballistic trajectory to predict range of firing.

c. Recognize the forensic significance of tool marks, footwear and tire impressions in an investigation.

d. Evaluate possible indicators of arson and criminal bombing.

**SFS5 Students will evaluate the role of Forensics as it pertains to Medicolegal Death Investigation.**

a. Identify various causes of death (blunt force trauma, heart attack, bleeding, etc.).

b. Analyze evidence that pertains to the manner of death (natural, homicide, suicide, accidental, or

undetermined).

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Please have your parents read over the syllabus and the statement below. Return this portion with parent signature by August 16th.

I have read over the syllabus for Forensics and understand the Late Work Policy & Make-Up Work Policy.

Parent Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Student Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_