

Western High School
FORENSIC SCIENCE I
 Science Department
 2014 – 2015 Course Syllabus

Teacher Ms. Keen

Phone: 754-323-2400 x3186

Subject: Forensic Science I- (#2002480)

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Room: 1115

Planning Hour: 1sthour

Course Description:

The purpose of this course is to provide opportunities to develop prior knowledge of biology, chemistry and physical science into real-life applications of Forensics. Students will have the opportunity to investigate criminal and medical aspects of death and prosecution of crime. Students will distinguish the nature of death as well as techniques used in the analysis of crime scenes. Investigation will be focused on but not limited to securing a crime scene, examination of physical evidence, properties of matter, analysis of glass, types of drugs, toxicology of the blood, using a microscope, bloodstain patterns, DNA evidence, examination of hair and fibers, analysis of soil, aspects of fire and explosions, fingerprints, tool marks, document examination and internet fraud.

Resources:

- Text:
1. FORENSIC SCIENCE: An Introduction by Richard Saferstein
 2. Forensic Science: An Introduction to Scientific and Investigative Techniques, Third Edition by Stuart James, Jon J. Nordby and Suzanne Bell

Websites http://wps.prenhall.com/chet_saferstein_forensicscience_1/
http://westernchemistry.com/keen_forensics.htm

Materials:

NOTEBOOK/ FOLDER: You must keep an organized notebook. A one-inch binder is recommended but not mandatory.

CALCULATOR: At times, you may be asked to bring a calculator to class.

PENCILS: You will need a mechanical pencil for this class.

A **USB flash drive** will be needed for projects.

HIGHLIGHTERS will be needed for this class.

Evaluation:

BrowardCounty Grading Scale:	Approximate Grading Breakdown:
90 – 100% A	Homework, Classwork, & Labs 45%
87 - 89% B+	Quizzes & Tests 45%
80 – 86 % B	Projects 10%
77 – 79% C+	All assignments are graded on a point system. The final grade is tallied by the following method: the total cumulative points earned out of the total possible points for each category will be converted to a percentage, multiplied by the categorical weighting factor, and added together.
70 – 76% C	
67 – 69% D+	
60 – 66% D	
0 - 59% F	

NOTE:

- *All school and county policies will be followed as per the Broward County Student Code of Conduct.*
- *Material in this syllabus is subject to modification by instructor if deemed necessary.*

MS. KEEN's CLASSROOM RULES:

1. Please do not spray any perfume in class due to asthma induced allergies of others. Spraying the spice of cinnamon or the smell of vanilla or pink chiffon is strongly discouraged and consequences will follow.
2. DO NOT talk when teacher is lecturing.
3. Please be RESPECTFUL to everyone and everything!! Including my things, your books, and our room!!!
4. Your cell phone is your responsibility, not that of the schools.
5. Watch your language.
6. Arrive to class ON TIME.
7. No sleeping in class. You will receive a zero for work done in class if you are sleeping.
8. No make-up work for skipping including test days.
9. Do not throw any material/paper in this classroom.
10. If you are ABSENT, you ask me for your make-up work.
11. Do NOT walk behind the teacher desk.

Cheating Policy

Cheating is obtaining information from any source other than those prescribed by the teacher for the specific assignment. Any student giving information is to be considered equally as guilty of cheating as the student receiving information. Students caught cheating will have their parents notified. A grade of zero will be given for the assignment and the student will not be allowed to make up the work.

Penalties for cheating:

1. Zero on the assignment or test
2. Parental notification
3. Referral to Guidance, making an official record of the occurrence
4. Repeated cheating results in an administrative referral

TENTATIVE CURRICULUM GUIDELINE FOR FORENSICS I

(Order of sequence and topic is subject to change by Keen)

Quarter 1

Course Expectations

Overview of Syllabus

Forensic Science Posters

Chapter 1: Forensic Science Introduction

Crime Lab Units

Federal Bureaus (FBI, DEA, USPS, ATF, ICE, CBP)

CSI EFFECT (AKA CSI Syndrome in the court room)

Basic penal code for murder in Florida

Death penalty by state (a matter of law or opinion)

Measurements in Forensics (Bertillon Measurement System)

Locard's Exchange Principle

Statistics in Forensic Science

Understanding Standard deviation

Chapter 2:Lecture Crime Scene Investigation

Chain of Custody Forms and Evidence Submission Forms

Gathering and processing evidence from crime scene

Search Patterns for crime scenes (grid, line, spiral, quadrant)

Crime Scene Sketches, Drawings and Photos

Triangulations of measurements

MOCK CRIME SCENE for CSI/CSU processing (The paperwork)

Solving the Murder Mystery (paper)

Anatomy color: Spinal Cord and Nerves

UNIT: Time of Death and Forensic Entomology

Manners of Death (Homicide, suicide, accidental, natural)

Introduction to Forensic Entomology Lecture

Determining Time of Death

Rigor Mortis

Algor mortis (calculations)

Livor mortis

Pallor mortis

Lifecycle of a Blowfly

Chapter 14: Fingerprinting

Introduction to Fingerprinting (loops, whorls and arches)

What is a ridge characteristic (minutiae)?

Anatomy color: The skin cell

Latent prints, visible prints and plastic prints

Fingerprinting and the Scientific Method Lab

FBI Henry Classification of Prints- What is your ID number?

Who is Will West 1903 (William West 1905) Leavenworth Penitentiary, Kansas

Fingerprint lifting techniques

LAB: Cyanoacrylate fuming

The role of the fingerprint expert

Other prints (footprint, bitemarks, etc)

The Rare Genetic Mutation of Adermatoglyphia

MIDTERM EXAMINATION WEEK

***NOTE- Midterm examinations are before winter break this year**

Quarter 3

Chapter 16: Document Examination

Handwriting Comparisons and techniques

Analysis of self handwriting

Handwriting and individual characteristics

Don't forget to dot your i's and cross your t's

Job of the handwriting expert

Graphology vs Graphotherapy

Special Topic: JonBenet Ramsey Case

Special Topic: Expert witness in Brett Seacat (2013 case) on handwriting analysis

Chapter 5: DRUGS

Narcotics vs prescription drugs

Defining Opiates

Illicit drugs

NSAID's vs steroidal drugs

Anabolic Steroids- illegal use in sports

DEA Drug Schedules I-V

Drug Enforcement Agency (DEA)

Chapter 6: Forensic Toxicology

Introduction to Forensic Toxicology

Preliminary vs Confirmation drug testing (GCMS)

Toxicology reports

Forensic Toxicology Lab

Death by Poison-Analysis of Drugs and Poisons Lab

Forensic Science Presentations: Illicit Drug Powerpoint

UNIT: Criminal Law

Defining murder in Florida

Understanding the Miranda Rights

Chapter 3: Physical

Types of physical evidence

Inadmissible evidence (Hearsay)

Chapter 7: Forensic Microscopy

Introduction to Forensic Microscopy

Types and uses of various microscopes

Parts of the microscope

Comparison microscope in the crime lab

Chapter 10: Forensic Trace Evidence I: Hair and Fiber

Trace Evidence Analysis Lab (view hair, fabrics and skin cells using microscopes)

Trace Evidence Analysis Lab (cancer cells, sperm and other trace evidence using microscopes)

UNIT: SERIAL OFFENDERS

Types of serial offenders

Characteristics of serial offenders

Motives and Modus Operandi of serial offenders

Chapter 19: Forensic Careers

Careers in Forensics

College Curriculum for Forensic Science

Forensic Science Presentations: Serial Killer Powerpoint

Mock Crime Scene Project

Review and Final Examination