

# 2022-23 Forensics Course Guidelines

Ms Beneducci

Phone 908-689-0122

Room 22

E-mail beneduccim@warrennet.org

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## **Text:**

Forensic Science by Bertino and Bertino/Mindtap online book

## **Description:**

This course is designed to allow students to understand the basics of forensics. The topics that will be explored include identification and correct processing of organic and inorganic evidence. Special attention will be paid to DNA analysis, including DNA fingerprinting. Inquiry activities will be utilized to foster the development of scientific reasoning (a logical approach to a problem utilizing a step and the possible outcomes when different factors are manipulated). Blood spatter analysis, fingerprinting, serology, toxicology, entomology and hair identification will also be covered. Labs will provide a hands-on learning experience that encourages observation, record-keeping and succinct writing skills. This class will meld chemistry, biology, physics and law and public safety into a lab oriented introduction to criminalistics.

## **Goals:**

Students, upon successful completion of the class, will be able to

- Understand how the scientific method is used universally and in many different areas as a problem-solving resource.
- Know, use and interpret scientific explanations of the forensic science
- Generate and evaluate scientific evidence and explanations;
- understand the methods and techniques for collecting and processing evidence
- Understand the nature and development of criminalistic procedures and tests; and
- Participate productively in scientific practices and discourse.

## **Materials Needed:**

District issued chromebook

Internet access

Folder

## **Evaluation:**

Student grades will be assessed using the following criteria:

Tests/ Quizzes: 40%

Labs/projects : 20%

Homework: 20%

Classwork/participation:10%

A cumulative final will be given which will account for 20% of the final course grade.

## **Criteria for Assessments:**

Tests: will be based on the unit covered. A unit covers approximately three to four chapters. It will be a combination of multiple choice, problem solving and essay questions. A review will be provided prior to the test.

Quizzes: will be based on a single chapter. Not every chapter will have a quiz.

Labs/Activities/Projects: are given throughout each marking period to reinforce key concepts and to encourage exploratory reasoning. Formal labs must follow the format provided and will not be graded on the success or failure of the lab, but on the successful completion of the given procedures during lab, as well as the analysis of the results. Projects will be given as needed to allow students to use a more autonomous learning technique. Some projects will be in a group and/or in-class setting. In-class activities will be used to encourage students to employ a hands-on approach to science. These activities will be graded based on a student's involvement during the actual activity as well as a formative graded assessment in which the student will use journaling skills. Rubrics will be provided to students when the assignment is given. Each day late will be a 25% reduction in grade (each day of a weekend is 25%)

Homework: will be given and posted on Classroom. Each day late will be 33% reduction

Final Exam: ALL STUDENTS are required to take a cumulative final that will be counted as 20% of their final grade.

## **FORENSICS TOPICS**

- Chapter 1 Observation Skills
- Chapter 2 The Crime Scene **20**
- Chapter 3 Hair Analysis **50**
- Chapter 4 Study of Fibers and Textiles **78**
- Chapter 5 Forensic Botany **110**
- Chapter 6 Fingerprints **158**
- Chapter 7 DNA Profiling **190**
- Chapter 8 Blood and Blood Spatter **230**
- Chapter 9 Forensic Toxicology **282**
- Chapter 10 Handwriting Analysis, Forgery and Counterfeiting **314**
- Chapter 11 Forensic Entomology **348**
- Chapter 12 Death:Manner, Mechanisms and Cause **386**
- Chapter 13 Soil Examination **416**
- Chapter 14 Forensic Anthropology **442**
- Chapter 15 Glass **482**
- Chapter 16 Casts and Impressions **516**
- Chapter 17 Tool Marks **558**
- Chapter 18 Firearms and Ballistics **584**