

NOUVEL CATHOLIC CENTRAL HIGH SCHOOL

FORENSIC SCIENCE

COURSE SYLLABUS

COURSE DESCRIPTION:	<p>This one-semester course for 11th and 12th grade students is designed to introduce the history, science, and practical side of forensic science. Tenth grade students may enroll as long as they are concurrently enrolled in Chemistry. Students will be exposed to many different aspects of the field and will gain experience in many of its main tools—Crime scene reconstruction, fingerprint collection and analysis, blood typing and what spatter patterns tell investigators, trace evidence, DNA fingerprinting, patterns of decay, entomology, ballistics, injuries as evidence, etc. Experts in the field will be invited to come in and speak to the students, and a field trip to a local crime lab is also a possibility.</p> <p><i>Prerequisite: Successful completion of Biology and prior or concurrent enrollment in Chemistry.</i></p>
MAJOR COURSE GOALS:	<p>At the end of the semester, students will:</p> <ol style="list-style-type: none">1. Know the basics of the history of forensic science2. Understand the connection between forensic science and biology, chemistry, and physics3. Be able to use basic evidence collection techniques4. Be aware of and use technology in evidence collection and analysis (AFIS, CODIS, DNA fingerprinting, etc)5. Be able to analyze evidence and draw conclusions as to its significance and bearing on solving the crime6. Be aware of careers in forensic science and the education that is required7. Be able to critique popular TV shows and movies that depict forensic science as to their accuracy
COURSE ASSESSMENT PLAN:	<ul style="list-style-type: none">◆ Daily work will follow this basic pattern for each form of evidence covered: Notes that cover the science of the topic, teaching on the techniques used to collect and analyze the evidence, culminating in practicing proper collection and analysis techniques. Emphasis is placed on problem-solving and application of information.◆ Participation—Students are expected to be active participants in this course,

	<p>asking and answering questions and engaging in the class discussions on a daily basis. Points will be awarded each week based on each student’s level of participation.</p> <ul style="list-style-type: none"> ◆ Quizzes and tests—There will be a formal assessment at the end of each topic. Format of the assessments will vary depending on the topic, but may include multiple choice, short answer, fill in the blank, and analysis of circumstances/evidence. Students may also be expected to demonstrate proper evidence collection and analysis as part of the assessment. ◆ Final Exam—The final exam will consist of two parts. Part one will be a typical pencil-and-paper, information-based test. The second part will be a “practical” exam involving evidence collection and analysis of a crime scene. ◆ <i>Seniors will be required to take the final exam regardless of their grade in the class.</i> ◆ Grades will be determined based on total cumulative points. Final grades will be figured based on the following percentages (exact percentages may vary slightly): <ul style="list-style-type: none"> *50% Daily class work, mostly lab-based activities *45% Tests and quizzes *5% Participation ◆ Final semester grades are determined according to the policy set forth in the Student Handbook.
<p>SUPPLIES AND MATERIALS NEEDED:</p>	<ul style="list-style-type: none"> ◆ At this time there is no textbook for the class. If the student is interested in purchasing a resource for his/her own benefit, a good option is “Forensics for Dummies,” by D. P. Lyle, MD. It gives a good overview of all the topics the class will be covering as well as other topics that will not be covered. ◆ General—One-subject spiral notebook, pen (blue or black) and pencil, ruler, graph paper, flashlight. ◆ Phone or tablet for taking pictures—For taking crime scene and fingerprint photos. If the student does not have access to a camera, they may be able to share with another student. This is not a daily need, the student will be informed when it is necessary.
<p>EXTRA HELP:</p>	<p>Extra help is available before school (most days) and after school by appointment. Many questions can also be answered via email. If the student needs help with anything, do not wait until the last minute to seek it out!</p>
<p>INSTRUCTIONAL PHILOSOPHY:</p>	<p>Every student learns in a different way, and every effort is made to ensure that every student has an opportunity to operate within their comfort zone while still</p>

	<p>stretching and pushing the student to do something new and different. Flexibility is a critical skill for the student to learn. The goal for this course is to give each student a working understanding of true forensic science in contrast to what they see on TV shows and movies.</p>
<p>MAJOR COURSE PROJECTS AND INSTRUCTIONAL ACTIVITIES:</p>	<ul style="list-style-type: none"> ◆ Evidence collection and analysis—Students will be presented with a fabricated crime scene where they will be expected to use proper techniques to collect evidence. <i>(Major course goals #3, 4, 5)</i> ◆ Fingerprint analysis—The practice of dusting and lifting fingerprints will be practiced, and students will be classifying the fingerprints they collect. <i>(Major course goals #3, 4, 5)</i> ◆ Blood typing—Students will learn how to determine the blood type of samples collected at a crime scene (using imitation blood). <i>(Major course goals #3, 4, 5)</i> ◆ DNA Fingerprinting—Students will use gel electrophoresis equipment to test DNA samples in order to identify victims and/or suspects in criminal investigations. <i>(Major course goals #3, 4, 5)</i> ◆ Trace evidence—Students will learn and practice the methods for examining fibers, hairs, glass, dirt, and other materials using microscopes in order to link suspects to crime scenes. <i>(Major course goals #3, 4, 5)</i> ◆ CSI and other TV shows will be shown in order critiqued them in terms of their authenticity based on what students learn in class. <i>(Major course goals #7)</i> ◆ Guest speakers, special presentations, and field trips are also possible activities during the semester. <i>(Depending on the event, may fulfill any of the Major Course Goals.)</i>
<p>CLASSROOM EXPECTATIONS:</p>	<p>Everything that is expected of the student can be summed up in three simple statements:</p> <ol style="list-style-type: none"> 1. Be respectful of yourself and others. 2. Be respectful of any and all materials found in the classroom and in the possession of yourself or others. 3. Do as the teacher requests to the best of your ability. <p>Failure to abide by these guidelines will result in verbal reprimand, detention, or removal from class, depending on the severity and/or repetitive nature of the offense.</p>
<p>HOMEWORK POLICY AND GRADING SCALE:</p>	<ul style="list-style-type: none"> ◆ Due to the equipment-based nature of this course, <i>most</i> homework will be completed during class time. In some extreme cases students may have to

	<p>come in before or after school to finish their work.</p> <ul style="list-style-type: none"> ◆ Late work—Homework is expected to be turned in on time and be of high quality. In alignment with Science Department policy, homework will be accepted one day late for a maximum of half credit. ◆ Letter grades will be determined according to the scale published in the Student Handbook. ◆ Extra credit—The student will have an opportunity to earn a few extra points each quarter. The student is to find science news articles from a newspaper or a source such as www.sciencedaily.com and write a short summary of the article. The article and the summary must be turned in together for a maximum score of two points per article. The student may do more than one article per quarter as the total number of points allowed will vary by quarter. No magazine articles will be accepted..
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	<i>Please note: E-mail is the most efficient mode of communication.</i>