

SYLLABUS	Forensic Science	NSC260
Spring 2006		

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Class Format:

Lecture: Tuesday 10:00 – 12:45
Attendance is MANDATORY at all class meetings!
Each class period will involve one or more components relating to the course theme:

- 1) Presentation of the scientific background
- 2) Discussion of the textbook and related readings
- 3) Science activity and/or debriefing
- 4) Student participation

Required Materials:

Criminalistics: An Introduction to Forensic Science, 8th edition,
Richard Saferstein, ISBN: 0-13-111852-8
Prentice-Hall, New Jersey, 2004.

Handouts to be distributed in class. Many handouts will be given in this course.
You will want to organize them in a 3-ring binder.

Supplemental Materials:

The course webpage has many links to sites organized by chapter/topic.
Forensic science related articles will be linked to the course webpage.
A bibliography for the course will be linked to the course web page.

Web Page:

<http://domin.dom.edu/faculty/jbfriesen/nsc260.htm>
Updated grade book and class announcements can be found at → <http://blackboard.dom.edu/>
(Many important resources and readings will be posted on the course web page. You must have reliable access to the World Wide Web for this course.)

NSC260 Course Description:

NSC listings: Dominican University 2000-2002 Bulletin

NSC260. Forensic Science

The evidence collected at a crime scene can often tell the true story of the criminal act if interpreted properly. Detection and analysis of DNA traces, fiber, hair, body fluids, fingerprints, footprints, toxic substances and illegal drugs are fundamental to the forensic scientist's craft. Proper handling, careful observation and logical interpretation of crime scene evidence are also vital aspects of a criminal investigation.

This course will satisfy the Natural Science core area requirement

Area Requirements: Natural Sciences

"Courses that meet the natural science requirement acquaint the student with scientific thought and inquiry. In the process, such courses help students gain an understanding of such fundamental concepts and methodologies of the sciences."

It is necessary and mandatory for you attend every class meeting and keep up with reading and writing assignments.

Successful class participation requires thorough preparation for each meeting in terms of studying, reading, and coming to grips with assignments.

Efficient time management is essential for keeping on track.

This course emphasizes class preparation and participation. Each week students will be expected to:

- 1) complete the basic textbook reading assignment,
- 2) perform independent research on a topic or problem and

prepare a contribution to the next class meeting. The value and impact of this course depends on the preparation of the students

The ultimate goal in science education is no longer just amassing a body of knowledge, but it's also developing the skills to go about answering questions independently. It is not possible for any one individual to learn that whole body of knowledge. Perhaps equally important is to be able to generate ways of thinking about questions that we have and how we might go about exploring those questions on our own." *Dr. Anita Greenwood, University of Massachusetts - Lowell*

NSC260 Course Objectives:

- Students will understand, appreciate and apply the basic elements of the scientific process of inquiry. Students will develop skills to allow them to function on all four levels of scientific endeavor:
 - 1) recognition of relevant facts
 - 2) acquisition and manipulation of data
 - 3) problem solving
 - 4) inquiry and experimentation
- Students will be able to reflect the role of science in law enforcement in particular and in society in general.
- Students will appreciate the various analysis techniques that are used to solve criminal cases. They will also be able to think critically about the advantages and disadvantages of a particular analytic technique.
- Finally, students will be expected to take charge of their own liberal arts education. This course requires a significant amount of self-discipline and independent motivation. To get the most out of this course, a student must put their own best effort into the course.

“You can lead a jury to the truth but you can’t make them believe it. Physical evidence cannot be intimidated. It does not forget. It doesn’t get excited at the moment something is happening – like people do. It sits there and waits to be detected, preserved, evaluated, and explained. This is what physical evidence is all about. In the course of the trial, defense and prosecuting attorneys may lie, witnesses may lie, the defendant certainly will lie. Even the judge may lie. Only the evidence never lies”

Herbert Leon MacDonell

“The Evidence Never Lies: The Casebook of a Modern Sherlock Holmes”

NSC260 Tentative Course Calendar:

	Topics	Reading Assignments	Activities
1/17	INTRODUCTION The Big Picture Areas of Expertise		Student Data Sheet Personal Goals Areas of Expertise CSI episode
1/24	History and Development of Forensic Science Fingerprints I	NSC260 Syllabus Chapter 1: Introduction Chapter 14: Fingerprints	Classification and analysis of Fingerprints
1/31	The Crime Scene Chain of evidence Fingerprints II	Chapter 2: The Crime Scene Chapter 3: Physical Evidence	Evidence the True Witness Latent Prints lab - dusting
2/07	DNA I	Chapter 13: DNA analysis	Latent Prints lab – chemical treatment
2/14	DNA II	DNA Reading Packet (Handout)	DNA isolation lab
2/21	Toxicology I	Chapter 5: Organic Analysis Chapter 6: Inorganic Analysis	Tylenol poisoning case
2/28	Toxicology II	Chapter 9: drugs Chapter 10: Forensic Toxicology	Drowned Businessman case
3/07	SPRING BREAK		
3/14	Trace I	Chapter 4: Physical Properties of Glass and Soil Chapter 7: The Microscope	Microscopy:Fiber and Soil
3/21	Trace II	Chapter 8: Hairs, Fibers and Paint	Microscopy: Hair and Paint
3/28	Blood/Serology I	Chapter 12: Forensic Serology	Blood Spatter Lab
4/04	Blood/Serology II	Readings on the O.J. Simpson Trial	Blood Detection Lab
4/11	Arson	Chapter 11: Forensic Aspects of Arson and Explosion Investigations	Arson lab
4/18	Explosives and Firearms	Chapter 15: Firearms	Detection of GSR
4/25	Anti-Terrorism	Chapter 16: Document and Voice Examination Chapter 17: Forensic Science on the Internet Chapter 18: The Future	Handwriting Analysis
5/??	Final Poster Session		

Grading: The distribution of the grades will be:

Quizzes (10x12)	120 points total	20%
In Class Activities (20x12)	240 points total	40%
Weekly Assignments (15x12)	180 points total	30%
Final Project	60 points	10%

Letter Grade Assignments:

	$100 \geq A \geq 92\%$	$92 > A- \geq 90$
$90 > B+ \geq 88$	$88 > B \geq 84$	$84 > B- \geq 82$
$82 > C+ \geq 80$	$80 > C \geq 72$	$72 > C- \geq 70$
	$70 > D \geq 60$	

Attendance:

Class attendance is an essential component of this course. You will lose 5 points for every 15 minutes that you are absent during regular class time. If you are absent you cannot receive the points designated for the in-class quiz and class activity. Two absences will reduce the best grade possible for the course to a “B+.” Three absences will reduce the best grade possible for the course to a “C+.” More than 3 missed class sessions will result in an “F” grade for the course.

Why Should Students Attend Class?

- 1) Attending class allows you to be part of a learning community. Learning has a personal and communal dimension, both of which are critical to the student.
- 2) Interaction with the instructor is another reason you should attend class. The physical presence of an instructor has a holistic impact on to each student that cannot be duplicated or replaced by a book, video or electronic communication.
- 3) The presence of students in the classroom is part of the course design. In order to fulfill the purpose for which the course is offered, students must be present in the classroom during class time.
- 4) The bottom line, you (or someone who loves you) paid for it!

Quizzes:

There will be at least 12 in-class quizzes. They will cover the assigned readings, assigned homework and the material presented in the preceding class periods. If a quiz is missed (you are not present in the classroom when the quiz is administered), you will not be able to make it up. There will be some questions directly from the end-of-chapter questions in the textbook. Quizzes will be 10-15 minutes in length. These quizzes are designed to help you keep you up to date in the class, and to encourage you to do practice questions.

In-Class (Lab) Activities:

Every week we will be doing exercises and/or performing lab activities in during the class period. The purpose of these activities is to familiarize yourself with the problem-solving skills expected from each unit. Lab handouts will generally be filled out during the class period and handed in at the end of the class period.

Weekly Assignments:

Every week there will be an assignment to complete for the next class period. In general, these homework assignments will be summarized and shared with the whole class during the next class period. You may be asked to prepare a handout or an overhead for the rest of the class as part of your assignment. Weekly assignments are due at the beginning of class. One point will be deducted if not handed in before 10:00 A.M. on Tuesday. One additional point will be deducted for every day late after that.

Final Presentations:

The purpose of final presentation is to encourage you to do thoughtful independent research on a topic relating to subjects we are addressing in class. The format may vary depending on the nature of the subject and how you wish to communicate it. The course final will be the presentation of your final research project.

Academic Integrity Policy

Students of the university must conduct themselves in accordance with the highest standards of academic honesty and integrity. Failure to maintain academic integrity will not be tolerated. The following definitions are provided for understanding and clarity.

Definitions of Plagiarism, Cheating and Academic Dishonesty

Student plagiarism is the deliberate presentation of the writing or thinking of another as the student's own. In written or oral work a student may make fair use of quotations, ideas, images, etc., that appear in others' work only if the student gives appropriate credit to the original authors, thinkers, owners or creators of that work. This includes material found on the internet and in electronic databases.

Cheating entails the use of unauthorized or prohibited aid in accomplishing assigned academic tasks. Obtaining unauthorized help on examinations, using prohibited notes on closed-note examinations, and depending on others for writing of essays or the creation of other assigned work are all forms of cheating.

Academic dishonesty may also include other acts intended to misrepresent the authorship of academic work. Deliberate acts threatening the integrity of library materials or the smooth operation of laboratories are among possible acts of academic dishonesty.

Sanctions for Violations of Academic Integrity

If an instructor determines that a student has violated the academic integrity policy, the instructor may choose to impose a sanction, ranging from refusal to accept a work product to a grade "F" for the assignment to a grade "F" for the course. When a sanction has been imposed, the instructor will inform the student in writing. The instructor must also inform the student that she/he has the right to appeal this sanction, and refer the student to the Academic Appeals Process described in the Bulletin of the Rosary College of Arts and Sciences. The instructor will send a copy of this letter to the Dean of the Rosary College of Arts and Sciences. The Dean will note whether a student has committed multiple violations of the academic integrity policy over time, and in such cases the Dean may institute a process leading to possible further sanctions, including suspension or expulsion from the university...

Some Reflections On Teaching and Learning: My job is to identify and develop the major conceptual issues for the course and then to show how those concepts are used in understanding energy consumption and its impact on our lifestyle. In addition, I hope to articulate the connections between concepts in this course and other courses that you are taking and have taken. I would also like to share with you some of the exciting modern advances in forensic investigations and their applications. In order to accomplish these goals, I would like to have an interactive classroom with feedback from you. This possibility means less lecturing and more discussion with a focus on problem solving and conceptual understanding. Hopefully, we can create an environment where it is possible to ask questions, take risks and even fail. Listed below are some suggestions which will help us to have a successful learning experience.

1. Come to class. Regular attendance is expected. You are responsible for all information disseminated at all class meetings. If you are not there, you will miss the flow of events, the questions and discussion of your peers, and information given in the lecture.
2. Do the end-of-chapter questions. Try to answer the questions in a reflective manner. Test your understanding of concepts. Don't rush through the questions. As the quizzes will test your ability to apply what you learned to new situations and problems, it is critical that you understand the concepts. Please ask for clarification if you feel that you do not understand the question.
3. Do the reading assignments. The study questions are intended as a guide to what you are supposed to be getting out of the reading. However, feel free to think for yourself and develop opinions about the topics presented in the reading.
4. Study diagrams and tables. They are more than pretty pictures. They can pull together what is being described in the text in a very vivid way.
5. It is essential that you learn the vocabulary of our subject material. Make a vocabulary list of terms and definitions that you find key.
6. If you are in trouble, ask for help. I have posted office hours at which time I will be available to answer questions. I will also be glad to make an appointment for other times. If you have a quick question, feel free to contact me by email. In addition, I will organize help sessions if a group of students are having difficulty with a particular topic or if the class requests a review session before a quiz. Remember, in the end, you are responsible for learning.