

Florida International University  
Department of Biology  
Forensic Biology  
**BSC 5406, CHS 4533, BSC 4934**  
Fall Semester 2009

Professor:	Email address:	Office Hours/Phone
Dr. DeEtta (Dee) Mills	<a href="mailto:millsd@fiu.edu">millsd@fiu.edu</a>	Tues. 200-430pm by appointment OE 166C-D; 305-348-7410 (call first)

**Objectives:** The objective of this class is to introduce the student to Forensic Biology, its history, its methods and the application of DNA typing to a court of law. The class will introduce the students to basic genetics and population genetics as it applies to forensic biology. The class will also introduce the students to both human and non-human DNA typing techniques and instrumentation. It will also introduce the students to critical thinking and problem solving approaches.

**Goals:** For the students to become proficient in: (a) understanding the basic biology of DNA typing; (b) learn and apply scientific and critical thinking skills; (c) to research and report on a relevant topic related to DNA typing as it relates to human or non-human DNA.

This class will be presented as modules of information. Pre- and post- self-assessments will be taken at the beginning and end of each module. The self-assessments will be part of the quiz and attendance grade.

TENTATIVE COURSE OUTLINE  
(subject to change; changes will be posted on CE 6.0)

<b>Week of:</b>	<b>Topic</b>
8/25-27	Syllabus/CE 6.0/textbook/Introduction to the class; Introduction to Forensic Biology; Historical aspects of forensic biology; Assignment 1a and 1b Evidence handling/chain of custody; processing evidence Assigned reading: Chapter 1, 2, 3
9/1-3	Cells and chromosomes; Serology, Presumptive and Confirmatory testing; Semen, saliva, Blood and blood spatter Assigned Reading: Chapters 4-10 <b>ALL: CE 6.0 assignment 1A, 1B due by 5 pm Thurs, Sept 3rd</b> <b>BSC5406: Critique 1 assigned; use guidelines posted to critique ALL journal articles</b>
9/8-10	Continue identification of biological fluids; Introduction to genetic concepts Chapter 11 <b>ALL: Case report or topic selection due Sept 10th</b>
9/15-17	Introduction to DNA & DNA markers; genome organization Chapter 11 <b>BSC5406: Critique 1 due</b>
9/22-24	Introduction to Basic DNA techniques: DNA extraction, quantification, PCR, electrophoresis Assigned Readings: Chapter 12-16

## COURSE OUTLINE continued

Week of:	Topic
9/29-10/1	DNA techniques continued; introduction to DNA profiling Assigned readings: Chap 17-21 <b>ALL: Case or topic outlines due; BSC 5406: Critique 2 assigned</b>
10/6	<b>MIDTERM EXAM</b>
10/8	Forensic Issues: Evaluation of DNA profiling; Databases; quality assurance and quality control Chapter 22, 23
10/13-15	NRC; Court rulings and expert testimony issues <b>Critique 2 due</b> Assigned readings: Chapters 23
10/20-22	Non-human DNA; Assigned readings of posted articles
10/27-29	Microbial forensics; assigned readings of posted articles <b>BSC 5406: CHOOSE one article from posted articles and critique for CRITIQUE 3</b>
11/3-5	Y-STRs & mtDNA; Admissibility of evidence; DNA on trial
11/10-12	The FUTURE; new technologies; Exonerating the Innocent, Missing persons <b>BSC 5406: Critique 3 due</b>
11/17-19 -24	<b>GRADUATE STUDENT PRESENTATIONS</b>
11/26	<b>Thanksgiving! No class</b>
12/1-3	<b>GRADUATE STUDENT PRESENTATIONS; review</b>

**ALL: Written case or topic papers due no later than 5 pm Dec 3th**

Finals week: **Final Exam TO BE ANNOUNCED; If there is a final exam conflict YOU must notify me via email.**

**BSC5406:** Journal articles will be assigned as listed for critiques (posted on CE 6.0) that are due as indicated on syllabus.

Undergraduates: Various topic assignments and quizzes will be given throughout the semester as part of the quiz grades. I will announce them in class. Quizzes MAY BE POP QUIZZES over the material from previous lectures and/or reading assignments.

**Required/recommended Text:** Forensic Biology by Richard Li (CRC press) 2008

**All assignments will be due no later than 5 pm, Thurs. There is a participation grade! Attendance will be NOTED. IF YOU ARE ABSENT, obtain the lecture notes from a classmate. PDF files of lectures will be released ONE week prior to an exam.**

**This is a web-assisted class.** All assigned and supplementary materials will be posted to CE 6.0. It is the student's responsibility to obtain their CE 6.0 assignments and/or supplementary readings for class and post any assignments on time through either the assignment tool or CE 6.0 web mail.

**Grading:**

There will be a mid term and a cumulative final exam.

Grades will be calculated as follows:

<b>BSC 5406</b>		<b>CHS4533 &amp; BSC 4934</b>	
Journal Critiques (grad)	15%	Quizzes (undergrad)	15%
Midterm	20%	Midterm	20%
Final Exam:	25%	Final Exam:	25%
Case or topic report	20%	Topic report	20%
Presentation	10%	Homework	10%
Participation	10%	Participation	10%

The final grade will be calculated based on the following scale:

93-100	A
90-92	A-
88-89	B+
83-87	B
80-82	B-
78-79	C+
73-77	C
70-72	C-
68-69	D+
63-67	D
60-62	D-
59 or below	F

*Academic Misconduct:*

*Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.*

**Academic Misconduct: Full handbook and information can be found at:**

**<http://www.fiu.edu/~oabp/misconductweb/1acmisconductproc.htm>**

**DEFINITION OF ACADEMIC MISCONDUCT:** Academic Misconduct is defined as the following intentional acts or omissions committed by any FIU student:

**1.01 *Cheating*:** The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. Any student helping another cheat may be found guilty of academic misconduct.

**1.02 *Plagiarism*:** The deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is guilty of plagiarism. Any student helping another to plagiarize may be found guilty of academic misconduct.

**1.08 *Academic Dishonesty*:** In general, by any act or omission not specifically mentioned above and which is outside the customary scope of preparing and completing academic assignments and/or contrary to the above stated policies concerning academic integrity.

If found cheating, YOU WILL RECEIVE AN “F” FOR THE CLASS, NO EXCEPTIONS.

**TURN-IT-IN plagiarism software will be used to check all written reports for plagiarism. If plagiarism is found to exist, YOU WILL RECEIVE AN “F” FOR THE CLASS, NO EXCEPTIONS.**