

**Course Title:** ISC 205 Introduction to Forensics Fall 2010

<b>Instructors:</b>	
Dr. Elizabeth Murray	Mr. John Sammons
Professor Integrated Science and Technology	Assistant Professor Integrated Science and Technology
Office 241G Byrd Biotechnology Science Center	Office Pritchard Hall 208
Phone: 304.696.3515	Phone: 304.696.7241
<a href="mailto:murraye@marshall.edu">murraye@marshall.edu</a>	<a href="mailto:sammons17@marshall.edu">sammons17@marshall.edu</a>
Office Hours M-F 3-4 PM or by appointment	Office Hours T TH 10:00 AM -12:00 PM 1:00 PM – 2:00 PM Or Appt.
Web Page <a href="http://science.marshall.edu/murraye/">http://science.marshall.edu/murraye/</a>	Web Page <a href="http://www.science.marshall.edu/sammons17/default.html">http://www.science.marshall.edu/sammons17/default.html</a>

**Class webpage:**

<http://science.marshall.edu/murraye/Introduction%20to%20Forensic%20Science.html>

**Course Description:** This course is designed for science and nonscience majors who are interested in Forensic Science and Crime Scene Investigation. This course is designed to promote critical thinking. Lecture covers theoretical background of forensic science as well as illustrating application of the technology with current and past cases drawn from the New York Times. Laboratory covers Forensic DNA analysis, Blood spatter and Footprint analysis, Crime Scene Investigation, Fingerprints, Forensic Entomology, Gun Shot residue and Bullet analysis.

**Credit Hours:** 4

**Prerequisites:** None

**Recommended Texts:**

Instructor will provide additional protocols, technical articles, worksheets and laboratory notes based on our Case Study: The Murder of Lyle and Louise. Material will be shared in Blackboard and online on the class website. We request that students subscribe to The New York Times and read the daily paper. The physical paper will be available daily on campus at a paperbox.. We will use this as a resource to discuss crimes as well as policy issues. We will invite the NY Times representative to an early lecture to facilitate purchasing a subscription. It is also possible to read the NY Times online, and your subscription will give you access to the archives as well.

On-line Internet resources, including biotechnology company websites, technical information, tutorials and simulations will be provided in Blackboard as well as relevant videos. We will be broadcasting and archiving lectures in WIMBA. We will discuss utilizing this resource in the class. Although the lectures will be available as a streaming video or an archive, it is usually best to attend class in person when possible.

**Computer:** Access to a Pentium computer with WebCT, Internet, and current Marshall Microsoft Windows packages.

### **Desired Learner Outcomes/Objectives:**

- ISC 205 students will review and expand their knowledge of forensic science concepts.
- ISC 205 students will learn practical, hands on methods used in the Forensic Science Lab
- The learner will develop science process skills and knowledge of the scientific foundation for the techniques used and their appropriate application.
- The learner will develop science manipulative skills (specific laboratory techniques).
- The learner will develop communication and documentation skills used preparing evidence for use in court.
- The learner will become familiar with graphing and analyzing data collected in the laboratory and drawing inferences from data.
- The learner will demonstrate the knowledge of various careers in forensic science and the techniques used in Forensic Science.
- The learner will gain knowledge of critical thinking skills and to evaluate forensic evidence in a legal context. Critical thinkers 1) identify, discover, or raise vital questions, problems, or issues, formulating them clearly and precisely; 2) Figure out what information is needed to answer questions or solve problems; 3) Gather, analyze, and evaluate the information needed; 4) Formulate an answer to the question or solution to the problem, based on a thorough analysis, synthesis, and evaluation of the information gathered, while recognizing and evaluating alternative viewpoints; 5) Evaluate the effectiveness of the solution to the problem.

### **Evaluation/Measurement of Learner Outcomes:**

**Quizzes: 300 points.** Every other Friday there will be a 10 question quiz valued at 50 points. The student will be able to drop one quiz grade. There will not be makeup quizzes without a university excused absence.

**Final Exam: 200 points.** The Final exam will be 20 questions selected from the other quizzes and concepts from the laboratory. Final exam will be comprehensive and there will be a scheduled review session.

**Lab: 350 points.** Students will evaluate perform experiments to learn forensic lab methods and then will use this information to analyze the information from the case study of the murder of Lyle and Louise. Lab will be evaluated in the following manner:

1. **Prompt attendance and participation. 50 points.** Students are positively rewarded for attendance and teamwork. You can't learn much if you aren't here, and it is usually very difficult to make up lab. If you skip 3 labs without a university excused absence, your lab grade will drop by 10% (One letter grade). If you skip >4 labs, it will drop by two letters and so on. We will have an attendance book and have students sign in.

2. **Post-Lab Questions and data analysis. 200 points.** It is critical to read the labs before class. We will hand out lab instructions and post-lab questions before each laboratory. Post-lab questions and data analysis are due one week after the lab.

3. **Final Mock Trial based on Lyle and Louise evidence and suspects. 100** In addition to analyzing data in the laboratory, students will collaborate to use this information in a mock trial.

**Concept Mapping 100 points** During the course we will introduce you to concept mapping software to put information together about complex topics discussed in lectures and laboratory. This is similar to whiteboards crime teams use to analyze suspects' motives, witnesses' testimony, and forensic data.

Here is a link to free software used for concept mapping: <http://vue.tufts.edu/>.

**Current Cases Participation: 50 points.** We will discuss current cases in class based on the New York Times and other news sources. Topics will include ethics, cold cases, reliability of forensic techniques and The Innocence Project.

### **Grading Policy:**

Course will be graded by 1000 points.

A=  $\geq$  900 points

B=  $\geq$  800 points

C=  $\geq$  700 points

D=  $\geq$  600 points

F=  $\geq$  500 points

### **Class Policies:**

Students are expected to work safely and clean up after lab classes. Safety is a priority: if you have doubts about the safety of what you are doing, stop and ask instructor! Students should work carefully with equipment. Students should read and understand the safety component of

each lab. You can't work safely if you don't know what you are doing. *Do not eat or drink in the lab!* You can step outside to eat.

**ATTENDANCE POLICY:** Attendance in laboratory exercises is required and will be part of your total grade. Lecture attendance is encouraged either in person or through WIMBA. You are responsible for any material missed by being absent. Absences from exams or quizzes due to illness, death in the family, or institutional activities will be excused with the appropriate written notification to the instructor. In the case of illness, you must provide a physician's note stating that you could not be present during the exam period for medical reasons. See Marshall University Undergraduate Catalogue - Academic Information for guidelines (online catalog, p. 127, at [http://www.marshall.edu/ucomm/catalog/ug\\_05-07.pdf](http://www.marshall.edu/ucomm/catalog/ug_05-07.pdf)). This policy will be strictly enforced for lab and quiz attendance.

**COMPUTER LITERACY:** Course materials, quizzes, and course e-mail are located on Marshall University Online link on the homepage. Alternatively click this link. (<http://marshall.blackboard.com/webct/entryPage.dowebct>). Log-in using your MyMU user name (901 number) and password. ***If ISC 205 is not listed in WebCT, notify me.*** Additionally, you will be expected to use a word processing program to compose your written report, and Microsoft Office Excel to prepare some of the graphs for lab. Computers with these programs are located on campus in the Drinko Library and in computer labs in Morrow Library.

**ACADEMIC ACCOMMODATION:** If you have a learning disability, go to the Help Center, Myers Hall (this is costly), or Mrs. Sandra Clements in PH 117 (this service is free),. If you present a diagnosis of the learning disability or other disability that requires accomadation, they have the authority to send a statement of your needed accommodation to the instructor via campus mail. No accommodation can be allowed until this documentation is received and it must be received several days in advance of the exam to allow the professor time to arrange the conditions required.

**WEATHER POLICY:** Class will follow the Marshall University policy for cancelation of class due to inclement weather ([http://www.marshall.edu/president/board/Policies/MUBOG%20GA-%209%20Weather%20Closings%20and%20Delays%20\\_amended\\_.pdf](http://www.marshall.edu/president/board/Policies/MUBOG%20GA-%209%20Weather%20Closings%20and%20Delays%20_amended_.pdf))

**ACADEMIC DISHONESTY** in any form will not be tolerated. All written assignments, quizzes, and exams are to be independent efforts of each student unless participating in a team assignment. Refer to Undergraduate Catalog pages 105-109 ([http://www.marshall.edu/ucomm/catalog/ug\\_05-07.pdf](http://www.marshall.edu/ucomm/catalog/ug_05-07.pdf)) for definitions of cheating, fabrication/falsification, plagiarism; bribes/favors/treats; and complicity.

**ELECTRONIC DEVICES: Cell Phone:** Please, as a courtesy to the instructor and others, don't use your cell phones in class or lab. If you have an emergency call, use the vibrate option and step outside to take the call. Other electronic devices (calculators, laptop and handheld computers, instant messaging devices, PDAs, pagers, data-bank watches, etc.) must be turned off during class.

## Course Schedule

Lab schedule is approximate and will be refined as the course progresses. We will schedule a crime scene lab when the crime house is available. Therefore the exact labs listed here are tentative

Week		Lab Topic	Lead Instructor
1	August 23	Introductions, Teams, Safety, Data Collection	Murray
2	August 30	Foot print Data collection, analysis of crime scene data	Murray/ Sammons
3	September 6	Forensic Blood Analysis,	Murray
4	September 13	Blood Spatter Analysis	Murray
5	September 20	Blood Spatter analysis	Murray
6	September 27	Gun Shot Residue Analysis	Murray/Sammons
7	October 4	Bullet Identification	Sammons
8	October 11	Fingerprints	Sammons
9	October 18	Forensic DNA Analysis	Murray
10	October 25	Forensic DNA Analysis	Murray
11	November 1	Forensic Entomology Analysis	Murray
12	November 8	Computer Forensics	Sammons
13	November 15	Crime Scene Investigation	Sammons
14	November 22	Thanksgiving Week	
15	November 29	Preparation for Mock Trial	Murray/Sammons
16	December 6	Mock Trial Tuesday December 7, Final Friday December 10, 10:15-12:15	Murray/Sammons