**Marshall University**

**Syllabus**

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| Course Title/Number  | IST 224 Introduction to Forensics |
| Semester/Year | **FALL SEMESTER 2014**  |
| Days/Time | MW 2-3:15; W 3:30-5:20 |
| Location | Science 200 (lecture) and Byrd Biotechnology Science Center 125 (Lab) |
| Instructor | Terry Shank. |
| Office | Morrow Library Room 113 |
| Phone | 304-696-3517 |
| E-Mail | shank@marshall.edu |
| Office/Hours | MWF 9-950 am, M 4-6, F 11-12 and 2-6  TR: not on campus Other times by appointment ONLY |
| University Policies | By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to <http://www.marshall.edu/academic-affairs/?page_id=802> Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment |
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**Course Description: From Catalog**

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| IST 224 Hands-on DNA typing of simulated crime scene evidence. Process biological samples, purify DNA, perform presumptive and confirmatory tests for blood and semen, learn microscopy, PCR genetic analysis and practice testimony. |

**Required Texts, Additional Reading, and Other Materials**

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| 1. Forensic Science: From the Crime Scene to the Crime Lab, Second Edition © 2013. Richard Saferstein Pearson Education Inc. 2009 ISBN-10**:** 0-13-139187-9
2. Instructor provided slideshows, laboratory protocols, worksheets and laboratory notes.
3. Mystery of Lyle and Louise Manual
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**Course Requirements / Due Dates**

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| . 1. There will be two exams (125 pts each) Oct 1 and Nov 12 and a comprehensive final (150 points) Dec 8. Exams will be Multiple choice, true/false and essay questions .I will pass out a list of about 10 essay questions and will chose 3 for the exams. 50% of exam will be essay which you can prepare in advance.
2. Lab work and pre and post lab worksheets. Prelab worksheets are due on the day of the lab, before lab starts and Postlab worksheets are due one week after the lab is completed.
3. Case notes are due one week after the completion of the lab work for each lab.
4. Final Case Summary is due Dec 5.
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**Computer Requirements:**

Access to a Pentium computer with Microsoft Office 2007 or higher, Internet Explorer or other browser and MU Online access.

**Course Student Learning Outcomes and Assessment Measures**

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| **Course Student Learning Outcomes**  | **How Practiced in this Course** | **How Assessed in this Course** |
| Students will demonstrate understanding of the basic principles of forensic analysis including crime scene analysis, evidence collection, trace evidence (hair, fiber, glass, paint, footware etc.) analysis, biological evidence, DNA analysis, firearms and toolmarks, gun shot residue, drug and toxicology analysis, fire and explosions,questioned documents, digital and video forensics, fingerprints, forensic odontology and bitemarks, forensic anthropology and archeology, and forensic psychology and profiling.  | Assigned readings from text (Saferstein) , other assigned readings, PowerPoint lectures, films, in-class examples.  | Three exams, lab, final paper.  |
| Students will master laboratory skills through performing experiments in the lab and learn to document and interpret their results.  | Lyle and Louise Laboratory Manual, Text (Saferstein), Course lectures, Laboratory practice of methods, technical manuals and protocols; handouts for assignments, readings, and course videos | Lab work will be assessed based on attendance, participation, forensic laboratory pre and post lab worksheets and case notes. |
| Students will enhance their writing skills and strategies. The learner will develop laboratory documentation, presentation and report writing skills used in preparing evidence for use in court. The learner will engage actively with the material through various forms of low, medium and high stakes writing..  | Recording data and writing Case notes, essay exam questions, and researching and writing annotated bibliography and outline, and final paper.  | Case notes, annotated bibliography and outline, final paper, essay exam questions |

**Evaluation/Measurement of Learner Outcomes:**

Learners will be expected to read and understand the web page content and assigned readings in text. Students will be expected to attend class lectures and discussions or watch recordings on YouTube. This will be assessed using the exams. Students should read laboratory materials before lab.

**Exams: 400 pts**

There will be three exams. Two will be the times posted in the course schedule (125 pts each) February 19 and April 9 and a comprehensive midterm during final exam week (150 pts) May 9.

**Final Project Assignment 150 pts**

The last two sections of lab will be dedicated to preparation and trial covering the Lyle and Louise Scenario

**Enhanced Lab Assignment 50 pts**

Each group will choose one of the listed lab topics and provide an enhancement of the basic lab by covering some aspect that is not addressed in that particular lab. The purpose is to advance the understanding of that lab through interaction with experts in the field. The group will give a short powerpoint presentation in order to relay this information to the general class.

**Lab: 400 pts**

Lab will be evaluated in the following manner:

* Prompt attendance and participation. You can’t learn much if you aren’t here, and it is very inconvenient for me to have you make up the lab. If you skip >2 labs without a university excuse, your overall lab grade will drop by one letter. If you skip >4 labs, it will drop by two letters and so on. I will have an attendance book and have students sign in. **50 points**
* Pre-Lab and Post-Lab Questions. It is critical to read the labs before class. I will hand out lab instructions and both prelab and post-lab questions before each laboratory. The prelab questions are due before starting the lab and the post-lab questions are due one week after the lab. **100 pts**
* Case file notebook. After each laboratory, please record information on the results of scientific analysis of evidence directly relating to the Lyle and Louise Case using Blackboard Journals. **200 pts**  1 week after completing lab
* Final Case Notes summary **50 pts** December 5th.

**Grading Policy:**

Course will be graded by 1000 points.

A= ≤ 900 points

B= ≤ 800 points

C= ≤ 700 points

D= ≤ 600 points

F= ≤ 500 points

**Class Policies:**

**University Policies:**

The most up to date version of university policies will be complied with and is listed at <http://www.marshall.edu/academic-affairs/?page_id=802>

**Safety:**

Students are expected to **work safely and clean up after 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.*

**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.

**Attendance Policy:**

Students are responsible for all activities in class. I will not provide notes, etc. to missing students, so you must contact other students for that information. The lab requires faithful attendance, since it is necessary that students perform laboratory skills under the supervision of instructor. It is the student’s responsibility to meet with instructor to discuss absences due to illness or other reasons. The university attendance policy will apply for excused absences. Please let me know about planned excused absences and you may be able to perform lab earlier or another section.

**MU Online:**

We will use MU Online and the instructor’s class web page extensively in class. Grades will be posted in MU Online after each exam along with lab assignments, copies of slides, old quizzes, and data generated in labs and additional links. Make sure you know how to use this valuable course tool, I know that I will be learning as we go along (please be patient with me). The grades will ultimately be based on the formula in the syllabus.

**Course Schedule**

As far as possible, lectures will cover the topics discussed in laboratories in the week of the lab.

Lab schedule is approximate and will be refined as the course progresses. The exact labs listed here are subject to change.

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| **Week** | **Reading** | **Class Topic** | **Labs** |
| Aug 25 | Chapter 1 | Introduction | Safety, begin CSI |
| Sept 1 | Chapter 2-4 | Crime Scene | CSI Overview |
| Sept 8 | Chapter 5 & 15 | Physical Evidence/ DNA | DNA Part I-Presumptive |
| Sept 15 | Chapter 15 | DNA | DNA Part II- DNA Extraction |
| Sept 22 | Chapter 10 | Bloodstain Pattern Analysis | DNA Part III- Crime Scene DNA |
| Sept 29 | Chapter 9 | Firearms, Toolmarks and Other ImpressionsExam 1 Oct 1 | Blood Spatter |
| Oct 6 | Chapter 9 | Footprints, Blood spatter | Blood Spatter cont. and Bullet Analysis |
| Oct 13 | Chapter 8 | Fingerprints | Bitemark |
| Oct 20 | Chapter 17 | Document Examination | Fingerprints |
| Oct 27 | Chapter 11 & 12 | Drugs & Forensic Toxicology  | Documents |
| Nov 3 | Chapter 6 | Death Investigation, Entomology | Drugs |
| Nov 10 | Chapter 13 & 14 | Trace EvidenceExam 2 Nov 12 | Entomology |
| Nov 17 | Chapter 16 | Fire & Explosion | Trial Prep |
| Nov 24 | Thanksgiving Break |  |  |
| Dec 1 | Chapter 7 | Crime-Scene Reconstruction & Computer Forensics | Trial |
| Dec 8 | Final Exam: Monday Dec 8, 12:45 |  |
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