**Marshall University**

**Syllabus**

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| Course Title/Number  | IST 224 Introduction to Forensics |
| Semester/Year | **SPRING SEMESTER 2015**  |
| Days/Time | MWF 2-2:50; T 4:00 or 6:00 |
| Location | Science 376 (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, W10-12, F 3-6  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) Feb 16and March 30 and a semi-comprehensive final (150 points) Dec 8. Exams will be Multiple choice, true/false and essay/short answer questions
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.
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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.

**Quizzes, assignments, etc.: 100 points**

**Exams: 400 pts**

There will be three exams. Two will be on the times posted in the course schedule (125 pts each) February 16 and March 30 and a semi-comprehensive final exam (150 pts) on May 4.

**Final Project Assignment 100 pts**

Details to be presented on Blackboard shortly.

**Lab: 400 pts (from lab instructor’s syllabus)**

The Lab portion of this class will account for 40% of your total grade.

Lab will be evaluated in the following manner:

* Prompt **attendance and participation**(5 pts per lab). 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 >3 labs, it will drop by two letters and so on. Attendance will be taken every lab period.  **75 points**
* Pre-Lab and Post-Lab questions (10 pts each per lab).  It is critical to read the labs before class.  Lab instructions, pre-lab and post-lab questions will be posted before each laboratory. The pre-lab questions are due before starting the lab and the post-lab questions are due one week after the lab.  Any late assignments will receive a point deduction of 10% the first week it's late and  will not be accepted after that. **220pts**
* Moot Court will be held in the last lab period.  Each group will choose/be assigned a lab to present.  Students will be members of the court (lawyers, experts, defense, etc.).  Participation and script written by the group will be evaluated. 10**5pts**
* Class will normally be held in BBSC 125, but we will visit the crime scene house once or twice during the semester to collect crime scene data which will be discussed in lab as well as lecture.  Some labs may also take you outside to collect data, dress accordingly.
* You will work with the same lab group for the semester. Write the answers to the pre-lab and post-lab questions independently, even though you are collecting and sharing data from the labs within your group.
* Make-up labs will not be offered.

**Safety:**

Do not eat, drink, or apply cosmetics (including lip balm) in the lab.

Students are expected to work safely and clean up after classes. Please dress appropriately.  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.  Another lab will be following our lab and students will be expected to help reset the workspace for the next users.

**Cell Phone/Smart phones/Tablets/Personal computers:**

Please, as a courtesy to the instructor and others, don't use your cell phones in class or lab for chatting or texting. If you have an emergency call, use the vibrate option and step outside to take the call.  You are welcome to bring a personal internet computing device to collect and analyze data in lab, to take notes in lecture and to use information from MU blackboard and the Internet to complete laboratory and class assignments.   Some labs will use spreadsheets to track and analyze data.  Please keep computer use focused on class applications.

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|  **Week** | **Reading** | **Class Topic** | **Labs** |
| Jan 12 | Chapter 1 | Introduction, Evidence, Lab Safety | Intro & Safety |
| Jan 19 | Chapter 2-4 | Crime Scene | Crime Board Discussion |
| Jan 26 | Chapter 5 & 15 | Physical Evidence | Crime Scene House |
| Feb 2 | Chapter 15 | DNA | Blood Detection |
| Feb 9 | Chapter 10 | Bloodstain Pattern Analysis | DNA Part I & II |
| Feb 16 | Chapter 9 | Firearms, Toolmarks and Other Impressions  | Blood Spatter I |
| Feb 23 | Chapter 7 | Exam 1 Feb 25Footprints, Blood spatter | Bullets |
| Mar 2 |   | Forensic Anthropology | Bitemark |
| Mar 9 | Chapter 8 | Fingerprints | Fingerprints |
| Mar 16 | SPRING BREAK | ​ | ​ |
| Mar 23 | Chapter 11 & 12 | Drugs & Forensic Toxicology | Drugs |
| Mar 30 | Chapter 6 | Entomology/Death Investigation | Entomology |
| April 6 | Chapter 13 & 14 | Trace EvidenceExam 2 April8 | Footprint |
| April 13 | Chapter 11 & 12 | Drugs & Forensic Toxicology | Hair and Fiber |
| April 20 | Chapter 18 | Computer ForensicsApril 22 paper review (optional) | Documents |
| April 28 | Chapter 19 | Documents/internet | Moot Court |
|   | Final paper is due May 1, 2015 | ​ |   |
| May 4 | Final 12:30 | ​ |  |

**Grading Policy:**

Course will be graded by 1000 points.

A= ≤ 900 points

B= ≤ 800 points

C= ≤ 700 points

D= ≤ 600 points

F= ≤ 500 points

**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** |
| Jan 12 | Chapter 1 | Introduction | Safety, begin CSI |
| Jan 19 | Chapter 2 | Securing Crime Scene | CSI Overview |
| Jan 26 | Chapter 3 | Recording Crime Scene | Crime Scene House |
| Feb 2 | Chapter 4 | Collection of CS Evidence | Presumptive Blood Detection |
| Feb 9 |  Chapter 5 | Physical Evidence/ DNA | DNA Part I |
| Feb 16 | Chapter 15 | DNA**Exam 1** | DNA Part II |
| Feb 23 | Chapter 10 | Bloodstain Pattern Analysis | Blood Spatter  |
| March 2 | Chapter 7 | Crime-Scene Reconstruction | Bullet Analysis |
| March 9 | Chapter 9 | Firearms, Toolmarks, and Other Impressions | Bitemarks |
| March 16 | **SPRING BREAK** |  |  |
| March 23 | Chapter 9 | Footprints | Footprints |
| March 30 | Chapter 8 | Fingerprints**Exam 2** | Fingerprints |
| April 6 | Chapter 6 | Death Investigation, Entomology | Entomology |
| April 13 | Chapter 11& 12 | Drugs & Forensic Toxicology  | Drugs |
| April 20 | Chapter 17 & 18 | Document Examination & Computer Forensics | Documents |
| April 27 | Chapter 13 & 14 Trace Evidence | Court |
| May 4 | **FINAL : 12:45** |