# San José State University

## Metropolitan University Scholar's Experience (MUSE) Seminar
## Justice Studies, JS 96GQ, The Real CSI, Section 01, Fall 2009

**Instructor: Dr. Steven B. Lee**

**Office Location: MacQuarrie Hall 521**

**Telephone: 408-924-2948**

Email: steven.lee@sjsu.edu**, sblee999@gmail.com Please use both emails.**

**Office Hours: W 1445-1845. Please set by email appointment to avoid conflicts.**

**Class Days/Time: Monday and Wednesday 1200-1315**

**Classroom: Clark 137**

**GE Area: B1 (Physical Sciences)**

**Peer Mentor: Melisa Chung. Email: melisawchung@gmail.com**

### Faculty Web Page and MYSJSU Messaging (Optional)

**Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on my faculty web page accessible through the Quick Links>Faculty Web Page links on the SJSU home page. You are responsible for regularly checking with the messaging system through MySJSU (or other communication system as indicated by the instructor).**

### Course Description

Develop your skills in the science of crime scene investigation through hands-on learning exercises. Basics of crime scene investigation and forensic science will be covered in this introductory course. Learn the appropriate methods for processing, securing, and isolating a crime scene. Topics include recording the scene, searching for evidence, decision-making about what evidence is appropriate and necessary to collect, procedures for collecting physical evidence, and maintaining the chain of custody to avoid contamination. Scientific concepts, methods, practices and analytical instrumentation utilized by forensic scientists for the recognition, collection, preservation, identification, comparison, analysis and documentation of physical evidence will also be covered. Hands-on activities will include: securing the scene, searching for physical evidence, documenting the scene, taking accurate measurements, and collection and interpretation of physical evidence such as fingerprints, blood spatter, shoeprints and DNA. Court testimony, professional requirements, standards, training, ethics, and quality assurance will also be covered. The interface of science and law will be discussed using case examples, current events, news, and magazine and journal research articles.

#### Introduction to MUSE

University-level study is different from what you experienced in high school. The Metropolitan University Scholar's Experience (MUSE) is designed to help make your

transition into college a success by helping you develop the skills and attitude needed for the intellectual engagement and challenge of in-depth university-level study. Discovery, research, critical thinking, written work, attention to the rich cultural diversity of the campus, and active discussion will be key parts of this MUSE course. Enrollment in MUSE courses is limited to a small number of students because these courses are intended to be highly interactive and allow you to easily interact with your professor and fellow students. MUSE courses explore topics and issues from an interdisciplinary focus to show how interesting and important ideas can be viewed from different perspectives.

## Course Goals and Student Learning Objectives

This course qualifies as an Area B1 (Physical Sciences) course in your General Education requirements. Science is a continuous and adaptive process through which we discover and communicate how the natural world works, separate fact from inference, and establish testable hypotheses. All students should sufficiently master essential quantitative and qualitative skills that are necessary to understand scientific knowledge and methods. Students should be able to incorporate scientific knowledge into the workplace and everyday life experiences. Physical Science (B1) courses focus on: laws of thermodynamics, structure of matter, interaction of matter and energy, behavior of physical systems through time, systems of classification, and physical processes of the natural environment.

## Learning Objectives and Activities for this Course

As an Area B1 (Physical Science) course, the content and activities are designed to enable you to achieve the following learning outcomes

1. To use methods of science and knowledge derived from current scientific inquiry in physical science to question existing explanations. [GE]

    1.a. Physical Evidence and crime scene investigations will be conducted using the scientific method. Hypotheses will be tested and reports will be written.

    1.b. Investigations will include, crime scene searching, measurements and documentation, fingerprinting and blood spatter.

2. To demonstrate ways in which science influences and is influenced by complex societies, including political and moral issues. [GE]

    2.a. Ethics and admissibility lectures and exercises will demonstrate the interaction of science, society and law.

3. To recognize methods of science, in which quantitative, analytical reasoning techniques are used. [GE]

    3.a. In all hands-on activities, use of quantitative and analytical reasoning will be required.

    3.b. Measurements, analysis of angle of impact in blood spatter and analysis and interpretation of a forensic DNA case are examples of these types of exercises

4. To understand the learning process and their responsibility and role in it. [MUSE]

   4.a. During the earlier part of the course, we will cover the following topics

   4. How to read a greensheet.
   4. Having a Conversation with the Text
   4. How to read effectively.
   4. How to take notes effectively.
   4. How to search on line library resources at SJSU
   4. How to use WebCT for online discussions.
   4. How to consult with instructor outside of class.
   4. Ingredients for a productive class discussion- Synergizing
   4. How to consult with instructor outside of class.

5. To know what it means to be a member of a metropolitan university community. [MUSE]

   5.a. Understanding the nature of CSI and the service to society directly links to the mission of MUSE. In this course, we teach skills that will be used in service to society

   5.b. Furthermore, emphasis on service to our community is highlighted in examples of criminalist volunteer work to assist missing children from former civil war conflicts, working with the remains of victims to help families achieve closure and in developing databases for assistance to society in solving crimes.

   5.c. Examples of scholarly research that are derived from work in our own laboratories on campus as well as those off campus will be used as examples of expanding the base of knowledge through research and scholarship.

## Required Texts/Readings

### Textbook

**Required Text:**

**CRIME LAB: A Guide for Nonscientists, 2nd. Ed. 2005. ISBN 978-0-9658286-4-2 Calico Press. http://www.calicopress.com/**

### Other Readings (Optional)

**Criminalistics: An Introduction to Forensic Science (College Version), 8/E, Copyright 2004, published 6-18-2003, RE. Saferstein, Ph.D., ISBN: 0-13-111852-8, Prentice Hall, 608 pp.**

**http://vig.prenhall.com/catalog/academic/product/0,4096,0131118528,00.html**

**Introduction to Forensic Science and Criminalistics By Robert E. Gaensslen, Howard A. Harris, Henry C. Lee Published by McGraw-Hill Higher Education, 2007**

**ISBN 0072988487, 9780072988482 413 pages**

**Forensic Science: The Basics By Jay A. Siegel, Jay Siegel A Siegel Published by CRC Press, 2006 ISBN 0849346312, 9780849346316 548 pages**

**Forensics for Dummies. 2004. Lyle, DP. ISBN 0-7645-5580-4. Wiley Publishing. 402 pp.**

**Top Shclf Forensics. 2003. Deslich, B and J Funkhouser. ISBN 0-8251-4627-5. J Weston Walch Publisher. www.walsh.com. 147 pp.**

**Techniques of Crime Scene Investigation, 2003. Seventh Edition. Barry A. J. Fisher. ISBN: 084931691X. CRC Press LLC. 544 pp.**

**Forensic Science Handbook Volume III, 1/e Richard Saferstein ©1993 / ISBN: 0133253902**

**Forensic Science Handbook, Volume II, 1/e Richard Saferstein, Bill Bliss, Arlington, VA ©1988 / ISBN: 0133268772**

**Forensic Science: An Introduction to Scientific and Investigative Techniques. 2003. Stuart H. James and Jon J. Nordby eds., ISBN: 0849312469, 698pp. CRC Press**

**Henry Lee's Crime Scene Handbook. 2001. Henry Lee. PhD. ISBN 0-12-440830-3, 418pp. Academic Press.**

**Forensic DNA Typing: Biology and Technology Behind STR Markers 2005. John Butler PhD. ISBN: 0-12-147952-8 660 pp. Academic Press**

**Forensic Firearms Evidence" handbook. 1995. Lucian Haag. Workbook.**

**Experiments and Practical Exercises in Bloodstain Pattern Analysis.1998. Laber, T and Epstein B. 1998 5th printing. Minnesota BCA.**

#### Other Equipment / Material Requirements (Optional)

Some materials such as tape measures, protractors, digital cameras, envelopes, sharpies, pens and notebooks will be required. Specific lists of materials will be provided at the first class meeting.

### Library Liaison (Optional)

Monday, Nyle C., Reference Librarian, Library, Dr. Martin Luther King Jr.
Office Location: KING 4056
Office Hours: By appointment
Telephone: 408-808-2041
Fax Number: 408-808-2009
Email: Nyle.Monday@sjsu.edu

## Classroom Protocol

**Helpful Hints for Success- (Taken from Matters of Life and Death MUSE/Phil 29C, Sec 9 (Area C2) Professor Janet D. Stemwedel- http://www.stemwedel.org/MUSE/LD_greensheet.html)**

**Read the assigned readings before class. Some of this reading will be hard! Keep track of questions you have as you do the reading. After you have finished reading a selection, jot down the points that seem to be most important in that selection and the points that are most puzzling. Be ready to discuss the reading in class, even (especially!) if you think you might not understand it completely.**

**Participate in class discussions. Work with the class to figure out what the readings mean, how they bear on questions of crime scene investigation and forensic science, and why these questions matter. Participation is not just a matter of reporting what the reading says, nor of simply voicing your own opinion. Rather, we will be examining all our assumptions. Participation will involve helping to identify assumptions made by the authors, your classmates, your instructor, and yourself. This requires good listening skills as well as good speaking skills!**

**Professor's Teaching Philosophy : A seminar is a joint effort of the students and the seminar leader. Your responsibility as a seminar participant is not only to learn, but also to help everyone in the seminar, including the seminar leader, to learn.**

## Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Students should be aware of the current deadlines and penalties for adding and dropping classes. Information on add/drop deadlines is available at http://www.sjsu.edu/registrar/calendar/. Information about late drops is available at: http://www.sjsu.edu/sac/advising/latedrops/policy/ **.**

## Assignments and Grading Policy

**Course requirements:**

**Exams: Three exams will be given in this course. Exams will be cumulative and will include all material covered up to the date of the exam. Exams may include multiple choice, matching, true/false, short answer, diagrams, drawings and sketches, short essay and/or long essay. Exams are worth 50 points each. The final is worth 100 points. Total for exams and final=200 points.**

**Quizzes: Quizzes on assigned readings, laboratories, small group activities and other assigned materials will be given during the semester. These will generally be multiple choice, matching, true/false and short answer but may also include essay questions. There will be a total of 5 quizzes. Total = 50 points**

**Hands-on Crime scene Exercises and Participation: Three hands-on crime scene exercises will be required. Each will be worth 50 points. The format and grading of the laboratory reports will be provided at the first laboratory session. Bound notebooks are required for all 3 laboratory reports. Participation in the crime scene exercises will be graded and will be worth 50 points total. Total = 150 points**

**Grading:**

| | |
|---|---|
| Quizzes | 50 points |
| Exam 1 | 50 points |
| Exam 2 | 50 points |
| Final Exam | 100 points |
| Crime Scene Reports | 150 points |
| MUSE Summaries | 50 points |
| Participation points | 50 points |
| | |
| Total | 500 points |

**No late work will be accepted** or in-class assignments or exams rescheduled except by prior consent from the instructor or with a written medical excuse. If you have a problem with a given assignment or exam, speak to me before the due date or exam time, not afterwards.

Extra Credit**:** A total of 20 points may be granted for small group assignments and other assignments during the semester. These may include attending seminars and providing a brief summary of the seminar (no more than 150 words). Each assignment will be worth 1-2 points each. These extra credit points may be used to augment your final point total.

**Grading Policies:** Make-up exams will not generally be permitted. However, under extraordinary circumstances, with proper documentation and approval by the instructor, a 15 page single-spaced term paper of an instructor assigned topi**c, may substitute for 1 exam.**

**Grade Points**

| | |
|---|---|
| **A+** | **483.5 to 500** |
| **A** | **467 to 483.4** |
| **A-** | **450 to 466.9** |
| B+ | 433.5 to 449.9 |
| B | 417 to 433.4 |
| B- | 400 to 416.9 |
| C+ | 385.5 to 399.9 |
| C | 367 to 383.4 |
| C- | 350 to 366.9 |
| D+ | 333.5 to 349.9 |
| D | 317 to 333.4 |
| D- | 300 to 316.9 |
| F | < 300 |

## Peer Mentor Center

The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering "roadside assistance" to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop –in basis, no reservation required. The Peer Mentor web site is located at: http://www.sjsu.edu/muse/peermentor/ .

## University Policies

### Academic integrity

Students should know that the University's Academic Integrity Policy is available at: http://www.sa.sjsu.edu/download/judicial_affairs/Academic_Integrity_Policy_S07-2.pdf. Your own commitment to learning, as evidenced by your enrollment at San Jose State University and the University's integrity policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The website for Student Conduct and Ethical Development is available at http://www.sa.sjsu.edu/judicial_affairs/index.html.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include in your assignment any material you have

submitted, or plan to submit for another class, please note that SJSU's Academic Policy F06-1 requires approval of instructors.

#### Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

## Student Technology Resources (Optional)

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library.
A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

## Learning Assistance Resource Center (Optional)

The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The LARC website is located at http:/www.sjsu.edu/larc/.

## SJSU Writing Center (Optional)

The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. The Writing Center Website is located at http://www.sjsu.edu/writingcenter/.

# Course Number / Title, Semester, Course Schedule

*List the agenda for the semester including when and where the final exam will be held. Indicate the schedule is subject to change with fair notice and how the notice will be made available.*

| Week | Date | Topics, Readings, Assignments, Deadlines |
|---|---|---|
| 1 | M 8/24<br>W 8/26 | Introduction and Overview of the Course Handouts &Ch 1<br>What criminalists face at a crime scene |
| 2 | M 8/31<br>W 9/02 | Furlough Day- No class<br>Overview of Criminalistics Handouts & Ch 1 & 2<br>and Physical Evidence: Processing the Crime Scene. |
| 3 | M 9/07<br>W 9/09 | Holiday: Labor Day: No Class Handouts & Ch 2 & 3**Crime Scene Measurements- Hands-on exercise 1** |
| 4 | M 09/14<br>W 09/16 | Physical Evidence Revisited- Class vs Individual Characteristics Ch 4<br>Crime Scene Measurements Revisited |
| 5 | M 09/21<br>W 09/23 | Fingerprints, Loops, Arches and Whorls Handouts<br>**Crime Scene Exercise Fingerprints – Hands-on exercise 2** |
| 6 | M 09/28<br>W 09/30 | Video assignment - Lee off campus inspection this week<br>Crime Scene Fingerprints team exercise continued on line |
| 7 | M 10/05<br>W 10/07 | Student led reviews<br>Exam I |
| 8 | M 10/12<br><br><br><br>W 10/14 | Introduction to Organic and Inorganic Evidence Ch 6 & 7<br>and Instrumentation used in Forensic Analyses<br>Examples of analytical results<br>Video assignment- Lee off campus-presenting at DNA conference |
| 9 | M 10/19<br>W 10/21 | Official Furlough Day- No class<br>The Metric System. Physical Properties. Comparing Glass Fragments. Glass Fractures. Collection and Preservation of Glass Evidence. Ch 7<br>**CSI : Glass Exercise – Reconstruction of a shooting incident** |
| 10 | M 10/26<br>W 10/28 | Microscopy, Glass and Soil exercises revisited Ch 7 & Ch 11<br>Impression Evidence Lecture/Lab<br>How firearms are examined and bullets matched. How toolmarks are compared; the NIBIN and IBIS systems |
| 11 | M 11/02<br>W 11/04 | Footprint evidence<br>**Crime Scene Exercise- Shoeprint and impression exercise** |
| 12 | M 11/09<br>W 11/11 | **Crime Scene Exercise- Shoeprint and impression exercise continued**<br>Catch up and Instructor Led Review for Exam 2. |
| 13 | M 11/16<br>W 11/18 | Student Led Review for Exam 2<br>Exam 2 |
| 14 | M 11/23<br>W 11/25 | Trace evidence Chapters, 5, 8 and 9<br>Biological Forensics- DNA role playing |
| 15 | M 11/30<br>W 12/02 | Furlough Day- No class<br>Introduction to DNA and methods used to study it<br>PCR and STRs |
| 16 | M 12/7 | Ethics, court testimony and admissibility<br>Student led reviews for final exam |

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|---|---|---|
| Final Exam | T 12/15 0945-1200 | Final Exam |