Administration of Justice Department
San Jose State University
Spring 2004
Class hours MW 1030-1145
Room: TBA

Instructor: Dr. Steven Lee
Office Hrs: M 1500-2000
set by appointment via email
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AJ 113
Introduction to Forensic Sciences

Course Description:
This course is designed to introduce students to the basics of forensic science. Students will be introduced to the scientific concepts, methods, practices and analytical instrumentation utilized by forensic scientists for the recognition, collection, preservation, identification, comparison, analysis and documentation of physical evidence. Evidence interpretation and court testimony, professional requirements, standards, training, ethics, and quality assurance will also be covered.

Course Text and materials:
Required Text:
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

Required reading and internet materials:
Journal articles and other readings will be accessible at the SJSU library, on reserve or will be accessible on line. Citations and URLs for on line materials will be provided in assignments. CA Dept of Justice Physical Evidence Bulletins: http://www.cci.ca.gov/Reference/pehb/peb.html and other forensic science web sites will be required reading.

Supplementary Texts (Optional)- Course material may include citations from the following:
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
Techniques of Crime Scene Investigation, 2003. Seventh Edition. Barry A. J. Fisher. ISBN: 084931691X. CRC Press LLC. 544 pp.
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 **2001**. John Butler PhD. ISBN: 0-12-147951-X 322 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.

Course Format:
The course will include **lectures by the instructor, assistants and guest lectures** from crime laboratory forensic scientists. **Discussions, small-group hands-on activities, and laboratories** will also be included throughout the semester. If possible, on-line chats and field trips (to at least one crime laboratory) will be scheduled (TBA).

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.

Exam 1:	Monday March 8th
Exam 2:	Monday April 14th
Final	TBA

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.

Laboratory Reports
Three laboratory reports 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.

Grading

Quizzes	50 points
Exam 1	100 points
Exam 2	100 points
Final exam	100 points
Lab reports	150 points
Total required	500 points

A total of 10 points may be granted for small group assignments and other assignments during the semester. 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 topic, may substitute for 1 exam.

	From	To
A+	483.5	500
A	467	483.4
A-	450	466.9
B+	433.5	449.9
B	417	433.4
B-	400	416.9

C+	383.5	399.9
C	367	383.4
C-	350	366.9
D+	333.5	349.9
D+	317	333.4
D-	300	316.9
F	<300	

Instructor

Professor Lee holds an MS from NYU and PhD from University of California, Berkeley in Molecular Biology. Lee is currently the Director of R&D at Hitachi Genetic Systems, Visiting Scholar at UC Berkeley, an adjunct professor at San Francisco State University and Florida International University. He was formerly the Director of R&D at CA Dept of Justice DNA Laboratory from 1994-2000 where he served as an expert witness in DNA and conducted DNA training courses. He is a full member of AAFS, CAC and is ASCLD-LAB certified. He has taught courses in molecular biology at SFSU (1996-1998), Forensic genetics at UC Davis (1997), and most recently forensic DNA Typing of STRs at FIU (2003).

Laboratory Assistants

Jeremiah is currently a Criminalist at the Santa Clara County Crime Laboratory. He is also a MS student at SJSU. He holds a BS in Forensic Science from the University of New Haven, CT. He has 4 years of forensic experience including trace, fiber, and crime scene investigation at Westchester County Forensic Lab in NY and forensic biology (DNA) at Santa Clara. He has been the teaching Assistant for AJ113 for 3 semesters. Keith Garrison holds a BS in molecular biology from UC Berkeley and is currently a candidate for PhD from UC Davis. Keith was a student research assistant and then an employee in the CA DOJ DNA Laboratory for 3 years. He has also worked as a research associate at Hitachi Genetic Systems in biotechnology research.

Tentative Course Schedule:

Dates	Topics	Saferstein
Week 1:	**Introduction and Overview of Forensic Science**	**Chap 1 (C1)**
2/2/04	Handouts-Syllabus- Reading material Introductions: Your background, TA backgrounds, my background Course Description, requirements, grading etc. Set up small student groups ***Assignment- Sign in- send an email to: Steven.Lee@sjsu.edu*** ***Read Saferstein Chapter 1 and 2*** ***Introduction to Criminalistics***	
2/4	**Introduction to Criminalistics -**	**C1**
Week 2:	**The Crime Scene- and Physical Evidence**	**C2 and 3**
2/9	**Processing the Crime Scene. Legal Considerations**	**C2**
2/11	**Physical Evidence- Overview**	**C3**
Week 3:	**Laboratory 1 A Fingerprints and Intro to Physical Evidence**	**C14**
2/16	**Laboratory 1A- Fingerprints Handouts &**	**C14**
2/18	**Laboratory 1A- cont (if necc) Physical evidence Handouts &**	**C3&14**
Week 4:	**The Microscope – Light, compound, comparison, IR, SEM**	**C7, C4**
2/23	Initial Examination- Characterization and Identification Procedures	
2/25	**Glass and Soil**	C4
Week 5:	**Laboratory 1 B Fingerprints and Intro to Physical Evidence**	**C14**
3/1	Laboratory 1B- Completion of Fingerprint laboratory	
3/3	Laboratory 1B cont. if necc and Review for Exam 1	
Week 6:	**Exam 1 and Chemical Foundations-Organic Analysis**	**C1,2,3,4, 7&14**
3/8	**Exam 1**: C 1, 2, 3, 7 and 14	
3/10	Organic Analysis	C5

Week 7:	**Laboratory 2: Impression Evidence-and Inorganic Analysis**	**C15, C6**
	And Organic Analyses	
3/15	**Laboratory 2A Impression evidence**	**C15**
3/17	**Laboratory 2B Impression evidence and Inorganic Analysis**	**C6**
Week 8:	**Chemical Foundations: Drugs**	**C9,C10**
3/22	Drugs	**C9**
3/24	Forensic Toxicology.	**C10**
Week 9:	**Spring Break 3/29-4/2**	
Week 10:	**Trace evidence: Hairs, Fibers, and Paint- Arson and Explsion**	**C8, C11**
4/5	Morphology, Identification & Comparison of Hair. Types of Fibers. Identification and Comparison of Man-Made Fibers. Forensic Examination of Paint. Collection and Preservation of trace evidence.	**C8**
4/7	Arson and Explosion	**C11**
Week 11:	**Exam 2 and Biological Foundations/Forensic Biol. Lab 3A**	**C5,6,8,9,10,11 15**
4/12	**Biological Foundations- Intro to Serology and Laboratory 3A**	**C12**
4/14	**Exam 2**	**C5,6,8,9,10,11 15**
Week 12	**Biological Foundations-Forensic Biology**	**C12,13**
4/19	Cell biology- Serology- continued	**C12**
4/21	Intro to Deoxyribonucleic Acid Structure and Function Intro. to DNA Central Dogma, The Genetic Code, Chromosome Structure, DNA Synthesis, Restriction Enzymes, DNA extraction, quantification and RFLP.	**C13**
Week 13	**Laboratory 3B- Forensic Biology Laboratory**	**C12,C13**
4/26	**Laboratory 3B-Forensic Biology lab**	C12
4/28	DNA Profiling (RFLP Analysis), hybridization and fragment analysis, PCR and Short Tandem Repeats	C13
Week 14:	**DNA continued and Questioned documents**	**C13, C16**
5/3	Mitochondrial DNA, Y Chromosome testing, Medical Benefits, Legal and Ethical Considerations	**C13**
5/5	Questioned Documents	**C16**
Week 15	**Laboratory 3C Forensic Biology Lab and Computers**	**C13,C17**
5/10	**Laboratory 3C Forensic Biology laboratory**	
5/12	Use of Computers in Forensic Science Investigation of Computer-Related Crime	**C17**
Week 16	**Legal and Ethical Issues in Forensic Science, Court Testimony**	**C18**
	The future and Course Review	
5/17	Countering Chaos: Logic, Ethics, and the Criminal Justice System Considerations in evidence interpretation Lessons from- Court Testimony Course Review for final exam **Final Exam: TBA**	