

**San José State University**  
**Department of Justice Studies**  
**FS 162 Forensic Science Applications**  
**CRN 23007, Spring 2016**

<b>Instructor</b>	Mary Juno
<b>Office Location</b>	MacQuarrie Hall 511
<b>Instructor Email</b>	<a href="mailto:mary.juno@sjsu.edu">mary.juno@sjsu.edu</a>
<b>Course Website</b>	Course documents will be posted on Canvas <a href="https://sjsu.instructure.com/">https://sjsu.instructure.com/</a>
<b>Office Hours</b>	Thursdays, 10:00ish-1:00ish pm
<b>Class Days, Times, &amp; Location</b>	Thursdays, 1:30-3:30pm, MacQuarrie Hall 523 Fridays, 1:30-3:30pm, MacQuarrie Hall 523
<b>Prerequisites</b>	FS 11, JS OR FS MAJOR/MINOR, UPPER DIVISION STANDING. JS STUDENTS MAY SUBSTITUTE JS 10 FOR FS 11.
<b>JS &amp; FS Library Liaison</b>	Silke Higgins <a href="mailto:silke.higgins@sjsu.edu">silke.higgins@sjsu.edu</a>

**Course Description**

Scientific analysis and interpretation of physical evidence using identification and comparison techniques. Practical lab exercises in human identification, questioned documents, bite marks, trace evidence, presumptive testing and glass analysis. Additional topics include court testimony, quality assurance and ethics.

**Course Content Learning Outcomes**

Upon successful completion of this course, students will be able to:

**LO1** Demonstrate knowledge of practical analytical techniques in human identification, serology, trace evidence, questioned documents, pattern identification, glass reconstruction, and bite mark identification.

**LO2** Understand the history and importance of DNA fingerprinting, articulate the principles of DNA profiling and inheritance, and apply this knowledge to a realistic field exercise.

**LO3** Analyze and critically evaluate forensic error, and ethical issues in forensic science.

**LO4** Explain and describe the Scientific Method; the Locard Exchange Principle; safe lab practices and proper evidence handling techniques; class and individual characteristics of evidence; identification, individualization and comparison techniques; and probative value and probability, and other important terms.

**Assignments**

1. Exams (45%) There will be three exams (and unannounced reading quizzes), and one final exam. Format will include multiple choice, fill-in, short essay and diagrams. (LO1, LO2, LO3, LO4)
2. Laboratory Exercises (45%) Labs will include Locard Principle, Hair & Soil, Physical Fit, Questioned Documents, Stab Lab, Human ID, Presumptive Tests for Blood & Semen, Pattern Evidence, and Anthropometry. (LO1)
3. DNA/Mass Disaster Paper (10%) Each student will determine familial relationships between and among disarticulated body parts by correctly interpreting DNA profiles, and write their findings in a 3-4 page scientific report. (LO2)

## Required Texts and Materials

James, S., Nordby, J., & Bell, S. (2014). *Forensic Science: An Introduction to Scientific and Investigative Techniques, 4/E*. CRC Press/Taylor & Francis.

ISBN-13: 978-1439853832

Strom, K. J. & Hickman, K. J. (2014). *Forensic Science and the Administration of Justice*. SAGE.

ISBN-13: 978-1452276885

Composition notebook.

## Other Readings

Journal articles, tutorials, and links to other required readings will be posted on Canvas. It is the student's responsibility to check the website for new postings.

## Grading Scale for All Assignments

A plus	97-100
A	94-96.9
A minus	90-93.9
B plus	87-89.9
B	84-86.9
B minus	80-83.9
C plus	77-79.9
C	74-76.9
C minus	70-73.9
D plus	67-69.9
D	64-66.9
D minus	60-63.9
F	<60

All assignments are graded based on adherence to directions, thoroughness, thoughtfulness, clarity, and logic. Note: A final grade of C or better is required for all Justice Studies and Forensic Science major and minor coursework.

## Extra Credit

Extra credit opportunities may be available throughout the semester and will be used to augment your final grade up to 3%.

1. Join a criminal justice or forensic science professional organization *that is of interest to you* and supply proof of membership before the end of the semester.
2. Attend a lecture in the Forensic Science Seminar Series and write a two-page, double-spaced, typewritten paper that includes a synopsis of the talk and your reaction/response.
3. Tour a crime lab and write a two-page, double-spaced, typewritten paper that includes a synopsis of the tour and your reaction/response.

## Late Work and Make Ups

Late work will not be accepted, or may be given half credit in some instances. Lab make-ups will generally not be possible. If you are in any doubt about the requirements of an assignment, or due dates/times, please re-read the directions of the assignment and/or schedule. If your question is still unanswered, contact me for clarification.

## **Credit Hour Policy**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty- five hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

## **Classroom Protocol**

Attendance and class participation is expected. It is essential that you come to class prepared so please keep up with the reading, complete assignments on time, and participate in class discussions. Lack of adequate participation *will* result in pop quizzes, which *will* count toward your final grade. Cell phone, iPad, and laptop (etc.) use is not permitted during class. Students may not leave the classroom during an exam for any reason (those who do will be considered done with the exam).

## **Student Resources**

### **Forensic Science Student Group (FSS)**

Forensic Science Students is a campus group open to all students interested in forensic science. The group meets biweekly during the semester and offers friendship, forensic science-related activities, networking opportunities, and mentorship. Members of the FSS participate and assist at conferences, CSI camps, guest speaking events, and other extra-curricular activities. FSS Peer Mentors assist forensic science students in navigating the major, understanding requirements and prerequisites, and making wise choices in their college careers. Mentors may also offer limited tutoring, and facilitate educational and professional opportunities. Contact [sjsu.fss@gmail.com](mailto:sjsu.fss@gmail.com) for more information, or to get an application for membership. Find FSS on facebook at San Jose State University Forensic Science Students.

### **Student Technology Resources**

Computer labs for student use are available in the Academic Success Center located on the 1<sup>st</sup> floor of Clark Hall and on the 2<sup>nd</sup> 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.

### **LARC**

The Learning Assistance Resource Center, located in Room 600 in the Student Services Center, assists students in the development of their full academic potential and motivates them to become self-directed learners. The center provides support services, such as skill assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. <http://www.sjsu.edu/larc/>

### **SJSU Writing Center**

The SJSU Writing Center located in Room 126 in Clark Hall offers a variety of resources to help students become better writers, including one-on-one tutoring sessions and numerous writing workshops. All services are free for SJSU students. <http://www.sjsu.edu/writingcenter/>

## **CASA Student Success Center**

The Student Success Center located in MacQuarrie Hall, Room 533 (top floor) provides GE advising for undergraduate students majoring or interested in majoring in programs offered by CASA Departments and Schools. The Student Success Center provides also assistance with changing majors, answers to academic policy related questions, meetings with peer advisors and/or various regularly scheduled presentations and workshops. <http://www.sjsu.edu/casa/ssc/>

## **University Policies**

### **Academic Integrity**

Academic integrity is essential to the mission of San José State University. Students are expected to perform their own work (except when collaboration is expressly permitted by the course instructor) without the use of any outside resources. Students are not permitted to use old tests, quizzes when preparing for exams, nor may they consult with students who have already taken the exam. When practiced, academic integrity ensures that all students are fairly graded. Violations to the Academic Integrity Policy undermine the educational process and demonstrate a lack of respect for oneself, one's fellow students and the course instructor. Violations also can ruin the university's reputation and devalue of the degrees it offers. We all share the obligation to maintain an environment that practices academic integrity.

The University's Academic Integrity Policy is available at [http://www.sa.sjsu.edu/download/judicial\\_affairs/Academic\\_Integrity\\_Policy\\_S07-2.pdf](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, requires 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 [http://www.sa.sjsu.edu/judicial\\_affairs/index.html](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 in the course and will be subject to 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.

### **Dropping and Adding**

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

### **Important Dates This Semester**

<http://www.sjsu.edu/registrar/calendar/2162/>

Last Day to Drop Without a W: February 9

Last Day to Add a Course, Last Day to Request CR/NC: February 16

Last Day to Submit Late Drop/Withdrawal Request (petition required): April 26

Last day of instruction: May 13

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

The Accessible Education Center (. <http://www.aec.sjsu.edu/>) provides resources for students with disabilities. Resources include: Academic Accommodation, Academic Advising, Adaptive Technology Center, Alternative Media Center, Deaf & Hard of Hearing Program, Disabled Parking, Guidelines for Documentation of Disability, Educational Assistants, Learning Disabilities, and Priority Registration. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the AEC to establish a record of their disability. 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 see me during office hours.

AEC: Administration Building 110

Phone: 408.924.6000 (Main Office) 408.924.6542 (Deaf and HoH) 408.808.2123 (ATC)

Hours: Mon - Thurs, 9:00am to 6:00pm; Friday 10:00 am to 4:00 pm

## **Justice Studies Reading and Writing Philosophy**

The Department of Justice Studies is committed to scholarly excellence. Therefore, the Department promotes academic, critical, and creative engagement with language (i.e., reading and writing) throughout its curriculum. A sustained and intensive exploration of language prepares students to think critically and to act meaningfully in interrelated areas of their lives—personal, professional, economic, social, political, ethical, and cultural. Graduates of the Department of Justice Studies leave San José State University prepared to enter a range of careers and for advanced study in a variety of fields; they are prepared to more effectively identify and ameliorate injustice in their personal, professional and civic lives. Indeed, the impact of literacy is evident not only within the span of a specific course, semester, or academic program but also over the span of a lifetime.

### **Instructor**

Mary Juno earned her MSc in Forensic Science from the University of Strathclyde in Glasgow, Scotland, and her BA in Biological Anthropology from San Francisco State University. Juno worked for many years as a CSI at the Oakland Police Department where she processed hundreds of major crime scenes and taught in the Oakland Police Academy. She has conducted research at the NYPD Latent Fingerprint Lab, and currently teaches JS and FS courses, and advises FS majors and minors. Her office is 511 MacQuarrie Hall.

## FS 162 Forensic Science Applications Spring 2016 Course Schedule

JNB = James, Nordby & Bell S&H = Strom & Hickman

Schedule is subject to change.

Week	Date	Topics and Activities	Reading
1	1/28 & 1/29	Course Overview, Form Groups, Lab Notebook Rubric History of Forensic Science, Forensic Laboratory Structure, Terminology, Roles & Responsibilities, Scientific Method, Characteristics of Science/Scientists	JNB Canvas
2	2/4 & 2/5	Characteristics of Evidence: Class, Individual, Identification Types of Analysis & Instrumentation, Databases, Controls, Chain of Custody Probative Value of Forensic Evidence, Probability	JNB Canvas
3	2/11 & 2/12	Microscopy & Trace Evidence, Munsell, Primary and Secondary Transfer Lab: Locard Exchange Principle	JNB Canvas
4	2/18 & 2/19	Locard Lab Continued, Hair & Soil Lab: Physical Fit <b>Exam 1</b>	JNB Canvas
5	2/25 & 2/26	Pattern Evidence: Is it scientific? Definition and Criticism Questioned Documents Lab: QD	JNB Canvas
6	3/3 & 3/4	Pattern Evidence Continued Labs: Footwear, Stab Lab	JNB Canvas
7	3/10 & 3/11	Human ID: Early Methods, Lab: Anthropometry Bones, Bitemarks, Lab: Bitemarks	JNB Canvas
8	3/17 & 3/18	Human ID: Serology Lab: Presumptive Tests for Blood & Semen	JNB Canvas
9	3/24 & 3/25	Human ID: DNA Lab: Mass Disaster <b>Exam 2</b>	JNB Canvas
10	3/31 & 4/1	No Classes: Spring Break!	
11	4/7 & 4/8	Problems in Forensic Science: NAS Report, CSI Effect, Evidence Backlog Lab: NAS Report	NAS, S&H Canvas
12	4/14 & 4/15	Types & Sources of Error, Innocence Project, Case Studies Lab: Error	S&H, Canvas
13	4/21 & 4/22	Research Culture in FS, SWGs, FEPAC, FSAT Quality Control & Quality Assurance, ASCLD-LAB Accreditation, Certification, Standardization	S&H, Canvas
14	4/28 & 4/29	Professional Ethics Lab: Ethics	S&H, Canvas
15	5/5 & 5/6	Legal Decisions: Frye, Daubert, Federal Rules of Evidence Legal Terminology, 4A, Discovery, Court Testimony	S&H, Canvas
16	5/12 & 5/13	<b>Exam 3</b> Getting the Job: Resumes, Cover Letters, Interviews	S&H, Canvas
Final Exam	TBD		