

**San José State University**  
**Department of Justice Studies**  
**FS 11 Survey of Forensic Science,**  
**Course Number 49691, Fall 2019**

<b>Instructor</b>	Jeremiah Scott Garrido, Lecturer   Criminalist (Forensic DNA/Crime Scene)
<b>Office Location</b>	Online and MH 509
<b>Instructor Email</b>	<a href="mailto:jeremiah.garrido@sjsu.edu">jeremiah.garrido@sjsu.edu</a> ; <a href="mailto:scenetolab@gmail.com">scenetolab@gmail.com</a>
<b>Office Hours</b>	Monday Evenings (8:15pm to 9:15pm)
<b>Canvas Website</b>	<a href="https://sjsu.instructure.com/">https://sjsu.instructure.com/</a> Login with SJSU Tower ID and Password →→→→Courses →→→ FS 11
<b>Class Days/Time/Location</b>	Monday Evenings from 5:30pm to 8:15pm / Hugh Gillis Hall (HGH) 122
<b>Prerequisites</b>	None
<b>FS Library Liaison</b>	Silke Higgins <a href="mailto:silke.higgins@sjsu.edu">silke.higgins@sjsu.edu</a>
<b>FS Lib Guide</b>	<a href="http://libguides.sjsu.edu/content.php?pid=57768&amp;sid=2450175">http://libguides.sjsu.edu/content.php?pid=57768&amp;sid=2450175</a>

**Course Description**

This survey course introduces students to the profession of forensic science. Topics include the history and sub-disciplines of forensic science, and the scientific methods and analytical instrumentation used for the recognition, documentation, collection, preservation, and analysis of physical evidence.

***Disclaimer:** This is an adult level course that may cover graphic criminal cases/discussions/topics.. Most of the course material will not be censored. Under no circumstances are students permitted to take photos of the classroom projected slides/lecture photos. Outlines will be provided/accessible via Canvas for each lecture pertaining to the topic that will be discussed.*

Note: This course is required for FS majors and FS minors. Recommended for JS majors, and any student with a general interest in Forensic Science.

**Course Goals and Student Learning Objectives**

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

- **LO1** Define forensic science as it relates to criminal and civil contexts, as well as key concepts and principles such as the scientific method, the fourth amendment, chain of custody, class versus individual evidence, probative value, and Locard's exchange principle.
- **LO2** Summarize important historical milestones in forensic science, the constituents and organization of crime labs, the contributions of natural sciences and the sub-disciplines of forensic science, analytical processes and procedures employed, and the types of evidence encountered.
- **LO3** Describe the roles of forensic scientists and investigative personnel, the duties they perform, and how they form collaborations to assist with legal inquiries.
- **LO4** Summarize the history of DNA profiling, principles of genetics concerning DNA, Mendelian inheritance, STRs, alleles, genotypic and phenotypic expressions of genes, and PCR.
- **LO5** Apply the concepts and principles of the scientific method to simulated forensic laboratory practicals, by formulating hypotheses, analyzing data collected, critically assessing the results and arriving at conclusions. • **LO6** Communicate an accurate representation of forensic science, the methods employed in various contexts, limitations of the field, the challenges faced and its achievements.

**Required Texts/Readings**

James, S., Nordby, J., & Bell, S. (2014). *Forensic Science: An Introduction to Scientific and Investigative Techniques, 4/E*. Boca Raton, FL: CRC Press/Taylor & Francis ISBN-13: 9781439853832- this book is also required for FS 162. Keep it if you plan to continue in FS. Many additional readings, tutorials, videos, and links will be posted on Canvas.



## Tentative Course Schedule

*Please check emails from me each week-This schedule is likely to change with fair notice – Due to my duties at the crime laboratory, on occasion, I may have to cancel class and assign a project to be completed at home.*

Week	Date	Discussion Topic (s)	Chapter Number
1	8/26	<i>Justice and Science / Introduction to Forensic Science and History</i> Handouts, Syllabus, Overview of Course	1
2	9/2	<b>Labor Day / OFF</b>	
3	9/9* <i>(no class meeting)</i>	<i>Role of Forensic Science at the Crime Scene &amp; Physical Evidence (Origins, Types &amp; Admissibility)</i>	2, 3
		Crime scene processing exercise / <u>JBR - Case Review</u>	
4	9/16	<i>Forensic Biology I: Detection and Identification of Biological Material &amp; Bloodstain Pattern Interpretation</i>	4, 8
		<b>LAB 1: Screening Bloodstain Evidence</b>	
5	9/23	<i>Forensic Biology II: Forensic DNA Analysis and CODIS</i>	9
		<b>LAB 2 Continued: Bloodstain/DNA Lab Results</b>	
6	9/30	<i>The Forensic Examination of Trace Evidence: Hairs, Fibers, Paint, Glass and Soil</i>	16
7	10/7	<b>Mid-Term Exam</b>	1,2,3,4, 8,9,16
8	10/14	<i>Science of Fingerprints: Development and Comparison</i>	13
		<b>LAB 3: Fingerprint Processing</b>	
9	10/21	<i>Impression Evidence: Firearms and Tool Marks / Tread Impressions (Footwear/Tire)</i>	14, 15
10	10/28		
		<b>LAB 5: Part II Shoe Comparison</b>	
11	11/4	<i>Forensic Chemistry: Toxicology, Drug Analysis and Analysis of Fire Debris/Explosives</i>	10, 11, 12
12	11/11	<b>Veterans Day / OFF</b>	-
13	11/18	<i>Forensic Anthropology / Entomology</i>	6, 7
14	11/25	<b>Thanksgiving Holiday / OFF</b>	-
15	12/2	<i>Topics in FS - Expert Witness Testimony/ Bias/ Laboratory Accreditation/ Error &amp; Future of FS ; Final Exam Review</i>	21
16	12/9	<b>Interactive Final – Cumulative</b>	

### Tips for Success in This Course

- 1) **Attendance is critical and being on time**– This will be an interactive class with exercises that cannot be made up. Some of the labs extend over two weeks and therefore it is difficult to complete the lab if one or both days are missed. Additionally, you will be well prepared for the exams if you are present.
- 2) Hand in assignments on time and complete. Review each lab exercise requirements.
- 3) If you have a question regarding course material or requirements please contact me. If you have a private problem or issue, email me. Don't wait until it's too late to do anything about it!

- 4) **Join the FSS.** If you are a Forensic Science major or minor, this group will provide you with an instant network of peers, friends, and mentors. Even if you're not an FS major, you will have a great time with this group.

## 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.

### CASA Student Success Center

The Student Success Center, located in MacQuarrie Hall 533, provides GE advising for undergraduate students majoring or interested in majoring in programs offered by CASA Departments. 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. Students are welcome to study in the CASA Center during open hours. <http://www.sjsu.edu/casa/ssc/>

**University Help Desk** is the first point of contact for service and support to help you with password resets, login issues, email support and account requests. University Help Desk is located in Clark Hall, Room 102. Phone: 408.924.2377 Email: [help@help.sjsu.edu](mailto:help@help.sjsu.edu) Hours: Mon – Thur 8am - 9:45pm, Fri 8:00am – 4:45pm <http://www.sjsu.edu/helpdesk/>

A.S. Computer Services Center has a computer lab with 100 computers that provided most major operating systems available from recently released versions of Microsoft Windows, to Linux, and Macintosh. Located in the Student Union on the 3rd floor. Phone: 408.924.6976 Hours: Mon - Thurs 8:00am – 10:00pm; Fri 9:00am - 5:00pm <http://as.sjsu.edu/ascsc/index.jsp>

### 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.

### Learning Assistance Resource Center

The Learning Assistance Resource Center (LARC) 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/>

## 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.

### 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 practical. Other course structures will have equivalent workload expectations as described in the syllabus.

### Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Information on add/drops is available at <http://info.sjsu.edu/webdbgen/narr/soc-fall/rec-298.html>. Information on late drops is available at <http://www.sjsu.edu/sac/advising/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/index.html>

### 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

### Instructor

Jeremiah Garrido is currently a Criminalists/DNA Analyst assigned to the Forensic Biology Unit of the Santa Clara County Crime Laboratory. He has approximately 18 years of forensic science experience. Jeremiah's primary duties at the Crime Laboratory include assisting police agencies in processing crime scenes for physical evidence, examining physical evidence for the presence of biological fluids, performing forensic DNA analysis and providing expert witness testimony in court. Jeremiah holds a BS in Forensic Science and a BS in Chemistry from the University of New Haven in Connecticut.