

**San José State University**  
**CoSS/Justice Studies Department**  
**FS 163 Fingerprint Science, CRN 50661 & 50660, Fall 2022**

Instructor:	Mary Juno
Office Location:	Health Building 127
Email:	mary.juno@sjsu.edu
Office Hours:	Wednesdays, 1100-1300 on Zoom (drop in/no appointment needed) <a href="https://sjsu.zoom.us/j/93007422140">https://sjsu.zoom.us/j/93007422140</a>
Class Days/Time:	Tuesdays 1200-1345 on Zoom; Thursdays 1200-1345 on campus, HB 207 (see schedule for on-campus dates)
Prerequisites:	Upper-Division Standing, FS 11 (for FS majors/minors), JS 10 (for JS majors/minors)
Library Liaison:	Nyle Monday <a href="mailto:nyle.monday@sjsu.edu">nyle.monday@sjsu.edu</a>
FS/JS Lib Guide:	<a href="http://libguides.sjsu.edu/c.php?g=230074&amp;p=1526987">http://libguides.sjsu.edu/c.php?g=230074&amp;p=1526987</a>

### **Course Catalogue Description**

History and use of fingerprints in criminal identification. Topics include the scientific basis for fingerprint identification, anatomy of friction ridge skin, pattern classification, minutiae marking, the Henry System, NCIC and IAFIS, court presentation of fingerprint evidence, and causes and sources of error.

FS 163 is an elective in the FS major/minor, and is a requirement in the new CSI major concentration. The course is recommended for anyone interested in a career investigating crime scenes or examining evidence.

### **Course Format**

This class is scheduled as a hybrid course, which means it has both online meetings and on campus meetings. On Tuesdays from 1200-1345, we will meet synchronously for lecture on Zoom; on Thursdays from 1200-1345, we will usually meet in HB 207 to complete hands-on lab activities. However, because there are not labs scheduled every Thursday, we will meet on Zoom on some Thursdays. *See schedule!*

### **Course Learning Objectives**

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

- CLO1 Apply knowledge of sequential fingerprint development techniques for porous and non-porous surfaces.
- CLO2 Interpret fingerprint patterns correctly and classify them using the Henry system, National Crime Information Center system, and the Integrated Automated Fingerprint Identification System.
- CLO3 Articulate the underlying principles of identification from FRS and the scientific basis for fingerprint identification.
- CLO4 Create a fingerprint comparison exhibit suitable for court presentation, and articulate the ACE-V process and the underlying scientific principles of fingerprint identification.
- CLO5 Evaluate causes of error in fingerprint comparisons, including cognitive bias and subjectivity.

### **Required Textbook & Materials**

1. [The Fingerprint Sourcebook](https://www.ncjrs.gov/pdffiles1/nij/225320.pdf) <https://www.ncjrs.gov/pdffiles1/nij/225320.pdf>
2. [The Science of Fingerprints](#) (free online)
3. Supplies: [Loupe](#) (\$14), [Ridge Counter](#) (\$14), colored pens or colored pencils, ruler/straightedge
4. Additional required readings and videos will be posted on Canvas

## Assignment Groups and Weights

1. Practical Exercises (40%) These will include locating type lines and deltas, identifying patterns, ridge counting and tracing, recording fingerprints on ten-print cards, classification systems, ACE-V, matching partial prints, palm prints, foot prints, and latent print development. (LO1 & 2)
2. Exams and Quizzes (35%) Periodic quizzes and one final exam. (LO1 – LO4)
3. Presentation of Evidence (10%) Each student will conduct a mock case as a latent print examiner, compare latent prints to a set of ten-print cards, and create a professional court exhibit of a positive identification. Students will present the identification as an expert witness in a mock court exercise. (LO3 & 4)
4. Presentation of Mini Research/Group Project (10%) Students will research a topic together with their group, create a PowerPoint, and present the information in class. Details of topics, content, format, and grading will be distributed.
5. Discussion Questions (5%) Students will respond substantively to discussions (usually on Canvas).

*All assignments are graded based on adherence to directions, thoroughness, thoughtfulness/effort, clarity, logic, accuracy, and writing mechanics.*

## Final Grade Scale

<i>Grade</i>	<i>Percentage</i>
<i>A plus</i>	<i>98 to 100%</i>
<i>A</i>	<i>93 to 97.99%</i>
<i>A minus</i>	<i>90 to 92.99%</i>
<i>B plus</i>	<i>88 to 89.99 %</i>
<i>B</i>	<i>83 to 87.99%</i>
<i>B minus</i>	<i>80 to 82.99%</i>
<i>C plus</i>	<i>78 to 79.99%</i>
<i>C</i>	<i>73 to 77.99%</i>
<i>C minus</i>	<i>70 to 72.99%</i>
<i>D plus</i>	<i>68 to 69.99%</i>
<i>D</i>	<i>63 to 67.99%</i>
<i>D minus</i>	<i>60 to 62.99%</i>

## Class Policies and Protocol

- Late work may be submitted for reduced credit, -10% for each week that it is late (so turn it in asap to avoid deep reductions).
- Plagiarized work will result in a 0 grade on the assignment and will be reported to the Office of Student Conduct.
- Exams will typically be open for at least a 24-hour window in order to maximize flexibility for students. You are expected to take the exam within this time frame. Make-ups will not be permitted unless you experience a documented emergency. Please set reminders so that you do not miss exams.
- When in Zoom class, please keep yourself muted in order to limit the dog-barking, child-yelling, horn-honking, microphone-bumping noises in the background. Please unmute to ask a question or contribute to a discussion. Alternatively, you can raise your hand or type questions and comments in the chat box.
- Please be respectful of each other in live class and in writing on the discussion board. Absolutely no racist, sexist, homophobic, harassing, dismissive or other offensive, discriminating, or disrespectful language or imagery will be tolerated. Any incidents of this nature may be reported to the Office of Student Conduct.
- I will not ordinarily record class sessions. If you miss class, please get notes from a classmate, just like you would for a regular on-campus class. If I need to record a particular session, I will let you know in advance so you can turn off your camera and other identifying information if you choose to.

- **Students are prohibited from recording class activities** (including photos, audio, or video of Zoom class lectures and/or in-person lectures, office hours, advising sessions, etc.), distributing recordings, or posting recordings. Recording without instructor permission is a violation of university policy and state law.
- Materials created by the instructor for the course (syllabi, lectures and lecture notes, PowerPoints, presentations, etc.) are copyrighted by the instructor.

## Canvas

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on Canvas at <http://sjsu.instructure.com>. Canvas Student Resource page <https://www.sjsu.edu/ecampus/software-tools/teaching-tools/canvas/student-resources/index.php>

## Campus Resources

<https://www.sjsu.edu/learnanywhere/campus-resources/index.php>

## Technology Resources

<https://www.sjsu.edu/learnanywhere/equipment/index.php>

## Tips for Success

- Download the Canvas mobile app to your smartphone so that you will have access to the course if you are away from a computer
- Login to Canvas frequently so that you do not miss important announcements and assignment deadlines
- Bookmark frequently visited course sites and resources so that you can revisit them to study for tests
- Get in contact with your groupmates early in the semester
- Visit me in office hours if you have questions

## Academic Integrity

Students are expected to pursue their studies with honesty and integrity. When students have a person other than themselves take a test or complete an assignment; cut and paste writing from a source into their paper without giving proper credit; accept, buy, or copy the work of another; share or sell their own work; lie, cheat, or otherwise misrepresent their work product, they have committed the serious offense of *academic dishonesty*. If you cheat, copy, or misrepresent your work in this class in any way, including citation “errors,” you will receive a 0 on the assignment and the incident will be reported to the Office of Student Conduct. You are expected, on all assignments, to do your own thinking and writing, turn in your best original work, and cite all sources you consult. No exceptions.

## Important University Dates

<https://www.sjsu.edu/registrar/calendar/fall-2022.php>

## University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs’ Syllabus Information web page at <https://www.sjsu.edu/curriculum/courses/syllabus-info.php>

## 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.

### **Themis: Research Journal of Justice Studies and Forensic Science**

Themis is a student-run journal that publishes original SJSU student papers on a wide range of justice- and forensic science-related topics. Themis runs as a 3-unit class spring only, publishing one volume annually in May in hardcopy and is hosted [online at Scholarworks](#). Researchers the world over have downloaded and cited our students. For more information, please see: <https://www.sjsu.edu/justicestudies/current-students/themis.php> Contact [mary.juno@sjsu.edu](mailto:mary.juno@sjsu.edu) to join Themis (JS 182) as an associate editor, and/or to submit an original paper for consideration in our next volume (deadline January 31).

### **About the Instructor**

Juno earned an MSc in Forensic Science from the University of Strathclyde in Glasgow, Scotland, and a 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. She coordinates the Forensic Science Minor and teaches FS courses in the Justice Studies Dept. She also teaches at CCSF and SFSU.

### **How to Contact Me**

- Email: [mary.juno@sjsu](mailto:mary.juno@sjsu). I will respond within 48 hours, M-F.
- Zoom Office Hours: Wednesdays 1100-1300 (drop in) <https://sjsu.zoom.us/j/93007422140>

## FS 163 Fingerprints Fall 2022 Course Schedule

\*The instructor reserves the right to alter this schedule with notice. Please check Canvas for additional information and assignments, and read all announcements so you do not miss any important changes.

Week	Date	In-Class Topics	Due	Readings, Assignments due next week
1	8/23 8/25	Course Overview, Intro History of FP, FRS Structure and Formation Pattern Overview, begin Loops	NIST Quiz	Download FP Sourcebook & Science of FP Read Ch 1, 2 & 3, <a href="#">FSS: Fingerprints</a>
2	8/30 9/1	Loops, continued Whorls	Worksheets	Read FP Sourcebook Ch 3 Pattern worksheets
3	9/6 9/8	Whorls, continued, Arches Pattern Wrap Up, <b>Pattern Quiz</b>	Worksheets	Pattern worksheets
4	9/13 9/15	Intro to Henry System Henry, continued Blocking the Card	Worksheets	Read FP Sourcebook Ch 5 Pattern worksheets Henry worksheets
5	9/20 9/22	NCIC, IAFIS Classification Systems Henry, Backwards & Card Blocking (group assignments)	Worksheets	Classification worksheets Canvas discussions Read FP Sourcebook Ch 4 <a href="#">Capturing Legible FP</a>
6	9/27 9/29	Classification and Pattern Review <b>Classification Quiz</b> Lab: Rolling Ten Prints	Worksheets	Read Capturing Legible Fingerprints <a href="#">FBI Latent Print Guide</a> Read FP Sourcebook Ch 7
7	10/4 10/6	Latent Prints Lab: Developing, Lifting and Evaluating Latent Prints	10 Print Cards, blocked with Henry, IAFIS, and NCIC	Read FP Sourcebook Ch 10 & 11 Complete lifts and evaluations <b>Latent Print Quiz</b>
8	10/11 10/13	Scientific Basis for FP Examination, Identification/Individuation of Prints Levels of Detail, ACE-V Lab: Minutiae Illustration & Marking	Lifts and Evals	Read FP Sourcebook Ch 9 Article: Scientific Methodology and the Friction Ridge Identification Process Complete Minutiae worksheets
9	10/18 10/20	Ready, Set, Go! (in class exercise) Courtroom Presentation of FP Evidence, Expert Testimony, Defense Challenges Overview of Court Case	Worksheets	Read Articles: 1.Defense Challenges to FP, 2.Confirmation Bias, 3. Subjectivity: The Misused Word
10	10/25 10/27	Error: Subjectivity and Cognitive Bias Human Factors, Mayfield Case <b>Reading Quiz</b> , Group work on court cases	Worksheets	Read FP Sourcebook Ch 13, 14, 15 Continue working on DQ & Exhibit
11	11/1 11/3	Major Case Prints: Palms and Feet Lab: Palms and Feet	Palms & Feet	Complete Defense Questions and Exhibit/Prepare for Testimony
12	11/8 11/10	Mock Court (8) Mock Court (8)	Court Exhibit & List of Defense Q's	Complete group presentation of special topic/record video
13	11/15 11/17	Mock Court (8) <b>ACE-V/ID/Court Quiz</b> Post group research topic video, view and respond to classmates' presentations	Group presentation of special topic	
14	11/22 11/24	<b>No class: Happy Thanksgiving!</b>		Read ahead for week 15!

<b>Week</b>	<b>Date</b>	<b>In-Class Topics</b>	<b>Due</b>	<b>Readings, Assignments due next week</b>
15	11/29 12/1	Getting a Job as a Fingerprint Examiner: Internships, Job Postings, Applications, Lab: Resumes, Cover Letters, Interviews	←Job Lab→	Complete Job Lab
16	12/6	Last Class: Exam Review		Study for Final
	FINAL	<b>Thursday Dec 8, 0945-1200</b>		Have a great semester break!

Zoom dates are highlighted. Asynchronous online dates are in blue.