

San José State University
Justice Studies
FS 162
Forensic Science Applications Workshop
Fall 2022

Course and Contact Information

Instructor:	Samantha Peek
Instructure Email:	Samantha.peek@sjsu.edu
Canvas Website	https://sjsu.instructure.com/
Office Hours:	Tuesdays 11:00AM-1:00PM, Zoom Appointments Only email or chat to schedule appointment
Class Days/Time:	Mondays – 6:00PM – 8:00PM Clark Building 303B Wednesdays – 6:00PM – 8:00PM HB 207
Classroom:	
Prerequisites:	Upper-Division Standing, FS 11 (for FS majors/minors), JS 10 (for JS majors/minors)
JS & FS Library Liaison	Nyle Monday nyle.monday@sjsu.edu
FS LibGuide	http://libguides.sjsu.edu/c.php?g=230074&p=1526987

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.

FS 162 is a required course in the FS major and FS minor. It also satisfies Area B (Methodology) in the JS major. The course is recommended for anyone who plans to pursue a career in investigations.

Course Learning Outcomes (CLO)

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

CLO 1 : Classify evidence and use appropriate analytical techniques in human identification, serology, trace evidence, questioned documents, pattern identification, glass reconstruction, and bite mark identification.

CLO2 : Explain the history and importance of DNA fingerprinting, articulate the principles of DNA profiling and inheritance, and apply this knowledge to a realistic field exercise.

CLO3 : Analyze and critically evaluate forensic error, and ethical issues in forensic science.

CLO4 : 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.

Required Texts/Readings

- Bell, S. (2019). *Forensic Science: An Introduction to Scientific and Investigative Techniques*, 5/E. CRC Press/Taylor & Francis.
 - Composition notebook, pens
 - Journal articles, tutorials, and links to other required readings will be posted on Canvas.

Course Requirements and Assignments

1. Exams & Quizzes (40%): There will be two midterm exams and periodic quizzes on terminology, readings, lecture, and labs. Format will include multiple choice, fill-in, short essay, and diagrams. (CLO1-4)
2. Practical Exercises (40%) may include observation, Locard Principle, trace evidence, physical fit, biometrics, questioned documents, pattern evidence, ethics, and others. (CLO1)
3. DNA/Mass Disaster (5%): Students will determine familial relationships between and among disarticulated body parts by correctly interpreting DNA profiles, and write their findings in a ~3 page scientific report. (CLO2)
4. Group Presentation (5%) Instructor will determine topics. (CLO 4)
5. Discussion Board (5%): Students will respond substantively to discussion prompts and to classmates on various forensic science-related topics. (CLO 1-4)
6. Chapter Review Questions (5%) Students will complete the chapter review questions at the back of each assigned chapter. (CLO1-4)

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

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

Class Policies

- No cell phones in class: Turn them off and put them away. If you must use your phone during class, please step outside of the room to do it.
- Plagiarized work and/or cheating on assessments will result in a 0 grade on the assignment, and the incident will be reported to the Office of Student Conduct.
- Late work will be marked down 10% every week that it is late.
- Make-ups for exams will generally not be possible unless extraordinary, documented circumstances exist.
- Handle personal business before you begin an exam. A student who leaves the classroom *for any reason* during an exam will be presumed finished with the exam.

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.

ACCESS Success Center

The Academic Counseling Center for Excellence in the Social Sciences (ACCESS) provides General Education advising for undergraduate students majoring or intending to major in any of the departments in the College of Social Sciences (CoSS). ACCESS Academic Advisors are committed to helping you develop a clear path to graduation and supporting your academic success. Office Hours: Monday-Thursday 8:00 AM - 5:00 PM and Friday 9:00 AM-4:00 PM. You can schedule an appointment and find more information at sjsu.edu/access.

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](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>”

FS 162 Forensic Science Applications Fall 2021 Course Schedule

Schedule is subject to change.

Week	Date	Topics, Readings, Assignments, Deadlines	Homework and Assignments
1	8/22	Course overview, form groups, lab notebook rubric	See links/articles on Canvas
	8/24	FS defined, brief history, laboratory structure and sections, investigative personnel roles & responsibilities, professional orgs, KSAs, FS Fact v. FS Fiction Observation Lab	Post-lab discussion questions
2	8/29	Characteristics and categories of evidence, probative value, probability, types of analysis: Identification, Individualization, Physical Fit	
	8/31	The scientific method, hypothesis testing, the nature of science, pure/research vs. applied science; pseudoscience	Study for Quiz 1
3	9/5	No Class – Labor Day	
	9/7	Microscopy, Instrumental Analysis,	Chapter 17
4	9/12	Controlled Substances,	Chapter 6,11
	9/14	Toxicology	Toxicology Case Study
5	9/19	Trace Evidence	Quiz 1 on Canvas
	9/21	Locard's Exchange Principle Lab	Post-Lab Questions and Chapter 9.10 See links/articles on Canvas
6	9/26	Early Methods of Identification: Anthropometry/Bertillonage	See links/articles on Canvas
	9/28	DNA, Familial DNA, Forensic Genetic Genealogy Problems with DNA Interpretation (Mixtures), Innocence Project Exonerations DNA Visualization & Mass Disaster Labs	Post-Lab Questions

Week	Date	Topics, Readings, Assignments, Deadlines	Homework and Assignments
7	10/3 10/5	Human ID: Teeth, bite marks, dental records Lab: Bite Marks	See links/articles on Canvas Post-Lab Discussion Questions
8	10/10 10/12	Human ID: Bones Bones Lab	Chapter 7 Quiz 2 on Canvas
9	10/17 10/19	NAS Report, CSI Effect, evidence backlog, types & sources of forensic error, research culture in FS, QC & QA, accreditation, certification, standardization, FSAT	NAS Report See links/articles on Canvas
10	10/24 10/26	Frye, Daubert, Federal Rules of Evidence Court testimony/testifying as an expert witness	Chapter 1, 2
11	10/31 11/2	Professional ethics Ethics Lab	See links/articles on Canvas
12	11/7 11/9	Questioned Documents QD Lab	Chapter 18 Quiz 3
13	11/14 11/16	Pattern Evidence, ACE-V, Lab: Shoe prints Getting a Job as a Forensic Scientist: Internships, Job Postings, Applications, Resumes, Cover Letters, Interviews	Chapters 14,15,16 Develop Resume
14	11/21 11/23	Job Lab No Class – Thanksgiving Break	
15	11/28 11/30	Class Data Set, Exam Review Jeopardy Final Exam (in class)	
16	12/5	Final	