

**FRSC 495-001: (Senior Seminar)**  
**Science of Fingerprints**  
***T 1:00-2:20am***  
***R1:00-2:20am***  
***FMH 309***  
***Fall 2025 Course Syllabus***

**NJIT Academic Integrity Code:** All Students should be aware that the Department of Chemistry & Environmental Science (CES) takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

**COURSE INFORMATION**

**Course Description:** This course is designed to prepare undergraduate students in the forensic science program for the technical foundation necessary to properly Examine fingerprints as a method for identification. Students will gain insight into the science of fingerprints, learn about techniques for acquiring known exemplars, recovering and documenting unknown impressions, classifying and comparing impressions, and utilize the ACE-V methodology to render conclusions. The students will develop a research topic and engage in research as part of this course. This course will also provide an opportunity for students to train on equipment utilized by practicing professionals and culminate with presenting their case work at a moot courtroom testimony.

**Number of Credits:** 3  
**Prerequisites:** FRSC 201

**Course-Section and Instructor**

<b>Course-Section</b>	<b>Instructor</b>
FRSC 495-001	Dr. Kevin Parmelee
T 1:00-2:20am (FMH 309)	Email: <a href="mailto:parmelee@njit.edu">parmelee@njit.edu</a>
R 1:00-2:20pm (FMH 309)	Office Hours: By Appt. C: 908-420-1102

**Required Textbooks & Supplies:**

<b>Title</b>	Fingerprint Source Book
<b>Author</b>	National Institute of Justice
<b>Publisher</b>	U.S. Department of Justice
<b>PDF link</b>	<a href="https://www.ojp.gov/pdffiles1/nij/225320.pdf">https://www.ojp.gov/pdffiles1/nij/225320.pdf</a>

<b>Model</b>	Professional Fingerprint Magnifier 4.5X
<b>Supplier</b>	Sirchie
<b>SKU# / cost</b>	JC100P \$135.52
<b>Link</b>	<a href="https://www.sirchie.com/professional-fingerprint-magnifier-4-5x.html">https://www.sirchie.com/professional-fingerprint-magnifier-4-5x.html</a>

And other readings as assigned. **If you choose to purchase a different make/model magnifier than the one recommended above, please consult with your instructor prior to purchasing to make sure it will be sufficient for the work that will performed.**

**University-wide Withdrawal Date:** The last day to withdraw with a **W** is Monday, April 3, 2023. It will be strictly enforced.

**Learning Outcomes:** Upon completion of this course, students will:

- Be able to critically evaluate the historical scientific and legal considerations for friction ridge skin examinations
- Gain knowledge for the biological structures and morphology of friction ridge skin
- Be able to successfully record exemplar prints and classify impressions using AFIS or NCIC coding
- Perform physical development of latent friction ridge impressions
- Utilize the ACE-V methodology for examination of impressions
- Perform examination of palm prints
- Review effects of disease, scars, distortion, sequential prints, simultaneous prints, and mutilations upon the examination process and conclusions
- Review and analyze quality assurance issues and concerns
- Perform examinations for Fingerprints and palmprints
- Apply the legal and scientific considerations of fingerprint examination to moot courtroom cases.

## **POLICIES**

**All CES students must familiarize themselves with, and adhere to, all official university-wide student policies. CES takes these policies very seriously and enforces them strictly.**

**Grading Policy:** The final grade in this course will be determined as follows:

<b>Class Participation</b>	10%
<b>Class Exercises</b>	20%
<b>Midterm Exam</b>	20%
<b>Final Exercises</b>	20%
<b>Final Exam</b>	30%
<b>Extra Credit will be given for attending forensic science conf.</b>	1% per full day

Your final letter grade in this course will be based on the following grading scale:

<b>A</b>	90-100	<b>C</b>	70-76
<b>B+</b>	87-89	<b>D</b>	60-69
<b>B</b>	80-86	<b>F</b>	<60
<b>C+</b>	77-79		

**Attendance Policy:** Attendance at classes will be recorded and is **mandatory**. Each class is a learning experience that cannot be replicated through simply “getting the notes.” After one unexcused absence, each subsequent absence will result in your class participation score being lowered by one percentage point. You are expected to read the relevant chapter and/or reading assignment prior to the lecture. Students who participate in lecture and practical exercises will receive points towards their class participation grade.

**Exams:** There will be one midterm exam held in class during the semester and one comprehensive final exam. The following exam periods are tentative and therefore possibly subject to change:

Midterm Exam	Oct 23
Final Exam Period	Dec 14-20, 2025

The final exam will test your knowledge of all the course material taught in the entire course.

**Makeup Exam Policy:** There will normally be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event that a student has a legitimate reason for missing a quiz or exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor’s note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the CES Department Office/Instructor that the exam will be missed so that appropriate steps can be taken to make up the grade.

**Class Recordings:** Class sessions may be recorded by the instructor. These recordings shall only be used as an educational resource and are not to be distributed or used outside of this class. Information on how to access recorded lectures will be made available by your instructor. Any recordings that contain identifiable information about students will not be used beyond this semester.

**Class Recording Etiquette:** Students are expected to respect their fellow students’ privacy and freedom to learn without disruption. Students are not allowed to capture or reproduce anyone’s name, image, or voice without permission. They must be polite and respectful in the online chat. Informal chat is okay, but typing is restricted to things that one would say out loud in front of the entire class. Students must always conduct themselves on their webcam video as they would in person in a classroom.

**Cellular Phones:** All cellular phones and other electronic devices must be switched off during all class times. Such devices must be turned in during exams.

## ADDITIONAL RESOURCES

**Accommodation of Disabilities:** Office of Accessibility Resources and Services (*formerly known as Disability Support Services*) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please contact Chantonette Lyles, Associate Director at the Office of Accessibility Resources and Services at 973-596-5417 or via email at [lyles@njit.edu](mailto:lyles@njit.edu). The office is located in Fenster Hall Room 260. A Letter of Accommodation Eligibility from the Office of Accessibility Resources Services office authorizing your accommodations will be required.

For further information regarding self-identification, the submission of medical documentation and additional support services provided please visit the Accessibility Resources and Services (OARS) website at:

- <http://www5.njit.edu/studentssuccess/disability-support-services/>

### Important Dates:

Date	Day	Event
Sept 2		First Day of Classes
Sept 8		Last Day to Add/Drop Classes
Nov 10		Last Day to Withdraw
Nov 25		Last class before Thanksgiving
Nov 27		Thanksgiving break begins
Nov 30		Thanksgiving break ends

Dec 11	Last Day of Classes
Dec 12-13	Reading Days
Dec 14-20	Final Exam Period

## Course Outline

Week	Date	Topic	Assignment
1	Sept 2	Introduction to the Science of Friction Ridge Skin	
	Sept 4	History	Chap 1
2	Sept 9	Anatomy and Physiology	Chap 2
	Sept 11	Embryology and Morphology of Friction Ridge Skin	Chap 3
3	Sept 16	Recording Living and Postmortem Exemplars	Chap 4
	Sept 18	Systems of Friction Ridge Classification	Chap 5
4	Sept 23	AFIS	Chap 6
	Sept 25	Latent Print Development	Chap 7
5	Sept 30	Latent Print Development	Chap 7
	Oct 2	Preservation of Friction Ridges / Digital Imaging	Chap 8
6	Oct 7	Digital Macro Photography	
	Oct 9	Documentation of impressions from scene to court	Chap 10
7	Oct 14	Examination Process ACE-V	Chap 9
	Oct 16	Comparison and Evaluation Skill Development	
8	Oct 21	Equipment, CSIPIX Annotations	Chap 11
	Oct 23	<b>Mid-Term Exam</b>	
9	Oct 28	Conclusion Determinations & Report Writing	
	Oct 30	Palm Print Comparisons & Techniques	
10	Nov 4	Distortion, simultaneous, sequential Impressions	
	Nov 6	Disease, scarring, & Mutilations	
11	Nov 11	Complex Friction Ridge Examinations	
	Nov 13	Quality Assurance / Bias, Uncertainty, and Ethics	Chap 12
12	Nov 18	Fingerprints and the Law	Chap 13
	Nov 20	Scientific Foundations	Chap 14
13	Nov 25	No Class (Friday Schedule)	
	Nov 27	Thanksgiving Break	
14	Dec 2	Special Skills, Abilities and Vulnerabilities	Chap 15
	Dec 4	Final Exercises	

15	Dec 9	Courtroom Testimony, Moot Courtroom Testimony	
	Dec 11	Last Day of Class; Review for Final	
16	Dec 12-13	Reading Days	
	TBD	<b>Final Exam</b>	

*Updated by Dr. Parmelee - August 10, 2025  
Department of Chemistry & Environmental Sciences  
Course Syllabus, Fall 2025*

---