

2025_SPRG_CJ_5379_Operating System & File System Forensics
Course Syllabus – Spring 2025

Sul Ross State University
The Homeland Security and Criminal Justice Department

COURSE DESCRIPTION

CJ 5379 Operating System & File System Forensics

This course introduces students to the core concepts and methodologies of operating system and file system forensics, focusing on the process of investigating and analyzing digital evidence stored on various file systems. Students will learn how to handle, preserve, and analyze data from different operating systems to uncover relevant evidence in criminal investigations. Topics will cover forensic tools and techniques, including file carving, file system analysis, registry analysis, and investigating system logs. Students will gain practical experience with common forensic software, and best practices in evidence handling.

COURSE OBJECTIVES

When you finish this course, you will know how to:

- Define and describe the fundamentals of digital forensics
- Define and describe the fundamentals of operating system and file system forensics.
- Identify various file systems (NTFS, FAT) and their structure for forensic analysis.
- Analyze and investigate digital evidence in different operating systems (Windows, Linux, MacOS).
- Describe the methods and techniques used to recover deleted or hidden files through file carving.
- Apply forensic tools and techniques to analyze system logs, registries, and other artifacts.
- Understand and apply the principles of evidence collection, preservation, and documentation.

INSTRUCTOR INFO

[Said Varlioglu](#)

msv20iy@sulross.edu

saidvarlioglu@sulross.edu

Office Hours: Video Calls by appointment

COURSE CALENDAR:

Module	Begin Date	Topic	Assignments
1	Week 1	- Introduction to Operating Systems	- Discussion Board 1 - Module 1 Assignment
2	Week 2	- Introduction to File Systems	- Discussion Board 2 - Module 2 Assignment
3	Week 3	- Introduction to Digital Forensics	- Discussion Board 3 - Module 3 Assignment
4	Week 4	- Windows OS Forensics	- Discussion Board 4 - Module 4 Assignment
5	Week 5	- Windows MFT (Master File Table) Forensics	- Discussion Board 5 - Module 5 Assignment
6	Week 6	- Windows Registry Forensics	- Discussion Board 6 - Module 6 Assignment
7	Week 7	- Windows Internet Browser Artifacts	- Discussion Board 7 - Module 7 Assignment
-	-	SEMESTER BREAK	No Assignment

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8	Week 8	- Windows Event Logs	- Discussion Board 8 - Module 8 Assignment
9	Week 9	- Windows Memory (RAM) Forensics Basics	- Discussion Board 9 - Module 9 Assignment
10	Week 10	- macOS Forensics Basics	- Discussion Board 10 - Module 10 Assignment
11	Week 11	- macOS File System Events (FSevents) Forensics	- Discussion Board 11 - Module 11 Assignment
12	Week 12	- macOS Internet Browser Artifacts	- Discussion Board 12 - Module 12 Assignment
13	Week 13	- macOS Unified Logs	- Discussion Board 13 - Module 13 Assignment
14	Week 14	- Final Presentation	- Final Assignment
-	-	- Final Week – Course Evaluation - PowerPoint Presentations as the Final Assignment	- Course Evaluation - Final Presentation

PERSONAL COMPUTER REQUIREMENT

You are expected to have a personal computer during the course.

COURSE POLICIES

Instructor Communication

Email is the best way to reach me. We can also meet in a video call if you need. The zoom link is above. As an Adjunct Instructor, I do not have an office on campus.

Grading

Your grade in this course will consist of the following categories.

Grading Scale:

- 90 - 100 = A
- 80 – 89 = B
- 70 - 79 = C
- 60 – 69 = D
- <60 = F

Grade Book Item	Weights
Assignments	70%
Discussion Boards	20%
Final Presentation	10%
Total	100%

SRSU LIBRARY SERVICES

The Sul Ross Library offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, www.library.sulross.edu . Off-campus access requires your LoboID and password. Check out materials using your photo ID. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or phone (432-837-8123).

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Once you logged in to your Sul Ross Account on Blackboard you should be automatically connected to the library webpage as well. Thus, you can browse the online databases of the University and reach the articles on the reading list.

Syllabus is subject to updates and changes always look to the course announcements and reminders for updates. The faculty member reserves the right to amend this syllabus as needed.

STUDENTS WITH SPECIAL NEEDS:

ADA (Americans with Disabilities Act) Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact Rebecca Greathouse Wren, LPC-S, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email rebecca.wren@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

STUDENT SUPPORT SERVICES AND BLACKBOARD HELP DESK

Sul Ross State University has established a variety of programs to help students meet the challenges of college life. Support to students includes advising, counseling, mentoring, tutoring, supplemental instruction, and writing assistance. For a complete list of academic support services, visit the Student Support Services <https://www.sulross.edu/section/311/student-support-services>. For more information, students are encouraged to contact SSS at (432) 837-9118 or visit Ferguson Hall Room 105. For Blackboard help visit <https://www.sulross.edu/bb> or call 432-837-8523 (M-F 09:00 am-06:00 pm). You can get The Distance Education Handbook at <https://tvpb.sulross.edu/start/index.html>