



# LAMAR UNIVERSITY

## SYLLABUS

Lamar University, a Member of The Texas State University System, is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Associate, Baccalaureate, Masters, and Doctorate degrees (for more information go to <http://www.lamar.edu>).

<b>Course Title:</b>	<b>Computer Forensics</b>
<b>Course Number:</b>	<b>COSC 4301</b>
<b>Course Section:</b>	<b>01</b>
<b>Department:</b>	<b>Computer Science</b>
<b>Professor:</b>	<b>Frank Sun</b>
<b>Office Hours:</b>	
<b>Contact Information:</b>	<b>LU email: <a href="mailto:frank.sun@lamar.edu">frank.sun@lamar.edu</a> Office: Maes Building, Room 204 Phone: 409-880-7998</b>

## PERSONAL INTRODUCTION

Welcome to Lamar University. My name is Frank Sun and I will be your instructor of record for COSC 4301 Computer Forensics. By way of a very brief introduction, I earned my master's degrees of computer science in University of Houston at Clear Lake. My area of expertise is computer system administration, but I also enjoy the challenges of computer security. I am certified Information Systems Security Professional (CISSP). I joined the faculty at Lamar in 2002, and I am currently an instructor and system administrator for the Department of Computer Science in the College of Art and Sciences.

## COURSE DESCRIPTION

Computers and network communication have become the critical components in current digital age. At the same time, each year, the frequency and severity of cyber-attacks increases. The computer forensics is the process of using scientific technology and application for acquisition, investigation, analysis, and preserve evidence from computer device to present in the courts. This course is designed to provide a foundation in the computer forensics. The student will learn some basic principles and practice techniques in computer forensics, and how to acquisition and analyze digital information for possible use as evidence in civil, criminal or administrative cases. Topics in the class will include the scope of computer forensics, applications of hardware and software, acquiring evidence, investigation protocols for computer forensics.

## COURSE-LEVEL OBJECTIVES

Students who successfully complete this course will be able to:

- Identified principles of forensic science and forensics investigations in cybersecurity.
- Recognized different types of computer hardware, OS, file system, and networking and how these related to digital evidence.
- Performed various protocols, tools, methods in acquiring, document, and analyzing of digital evidences.

## ACADEMIC PREREQUISITES

- **No prerequisites for the course.**

## TECHNOLOGY PREREQUISITES

Students are required to have **personal computer** in order to be successful in the class. Additionally, they should feel confident about their ability to navigate through typical online websites, download and install software, and their ability to use common word processing software in order to submit written assignments.

The minimum technical skills and the system requirements for this course: know how to **use Windows computer, basic file management, download and install software, capture a screenshot and past it into word.**

## BLACKBOARD

Students will utilize the Lamar University's Learning Management System (LMS), Blackboard, for online courses. For Blackboard support go to (<https://blackboardsupport.lamar.edu>) for more information.

## SYSTEM REQUIREMENTS

### **Computer/Technology Requirements:**

1. Students will need regular access to Windows or MAC with a broadband Internet connection. Note: mobile devices (if you have mobile devices there are limitations)  
The minimum computer requirements are:
  - Most current version of Firefox is recommended
    - *Please note that Blackboard may not support Internet Explorer, Safari, or Chrome.*
  - 8 GB or more preferred
  - Broadband connection (cable modem, DSL, or other high speed) required – some courses are video intensive
  - 1024 x 768 or higher resolution
  - Strongly recommended that you have a headset with microphone. You may also use webcam, and speakers
    - Example: Plantronics Audio 628 USB headset
  - Current anti-virus software must be installed and kept up to date.
  - Students will need some additional free software for enhanced web browsing. Be certain to download the free versions of the software.
    - Firefox (<http://www.mozilla.org>)
    - Adobe Reader (<https://get.adobe.com/reader/>)
    - Adobe Flash Player (<http://get.adobe.com/flashplayer>)
    - Java (<http://www.java.com>)
    - QuickTime (<https://www.apple.com/quicktime/download/>)
    - Silverlight (<https://www.microsoft.com/silverlight/>)
  - Most home computers purchased within the last 3-4 years meet or surpass these requirements.
2. At a minimum, students must have Microsoft Office 365 (<https://my.wip.lamar.edu>) click on MS Office 365). Microsoft Office 365 is available for all students.

### **Required Skills:**

3. Navigate websites, including downloading and reading files from them.
4. Use e-mail, including attaching and downloading documents/files.
5. Save files in commonly used word processing formats (.doc, .docx).
6. Copy and paste text and other items in computer documents.
7. Save and retrieve documents and files on your computer.
8. Locate information on the Internet using search engines.
9. Locate information in the library using the online catalog.

## COURSE SPECIFIC TECHNOLOGY SKILLS REQUIREMENTS

**There is no additional hardware or software requirement.**

## SOFTWARE USED IN THIS CLASS

We are going to download a lot of free download or free evaluation software. You do not need purchase any of these software.

## RESPONSE TIMES

I will response you emails, discussions, assignments and exams as soon as possible. Please send me email to [frank.sun@lamar.edu](mailto:frank.sun@lamar.edu), DO NOT use blackboard email.

## COURSE MATERIALS

*Required Text: A Practical Guide to Computer Forensics Investigations by Dr. Darren R, Hayes*

## GRADING POLICY AND EVALUATION

*Grading Scale: (sample 10- point scale)*

A	B	C	D	F
100-90	89-80	79-70	69-60	59 - below

## GRADING OF ASSIGNMENTS AND ASSESSMENTS

Place your detailed grading information here. Include specifics on how each type of assessment ties to the grading scale and how late assignments are dealt with.

### *Example:*

Quizzes	40%
Discussions	10%
Assignments	50%

Students will be expected to participate in threaded Discussion Board topics. **General weekly discussion board posting are not graded. Required Discussion board posting are marked how many points will be.**

## MAKE-UP WORK

**Make up any missing assignments are allowed.**

## DROP DATES

This course adheres to the add/drop standards for each term as stated by Lamar University. For more details, refer to the <http://www.lamar.edu> and search "Academic Calendar."

## COURSE EVALUATION

Instruction as well as student performance is subject to evaluation. Procedures for evaluation will be provided near the end of this course via email from the university. Please respond to each evaluation link provided. **Extra points will be assigned for the online evaluation. You need submit a screenshot to show you did the online evaluation.**

## MYLAMAR PORTAL

Students are asked to obtain a Lamar Electronic Account username and password so they can log onto the myLamar website. Students may get information on how to get into the myLamar website from the University's homepage (<http://www.lamar.edu>) by clicking on the myLamar link on the left top corner of the screen. Follow the steps to secure your myLamar username and password.

## STUDENT HANDBOOK

Students may access the Student Handbook online at <http://students.lamar.edu/student-handbook.html>.

## UNIVERSITY POLICIES AND SERVICES

## **STUDENTS WITH DISABILITIES**

For students with disabilities, this course will comply with all accommodations prescribed by the Lamar University Disability Resource Center (DRC). **It is the responsibility of the student to ensure that the instructor has been informed of all prescribed accommodations.** Lamar University's Disability Resource Center offers a variety of services designed to provide for students with disabilities and can be contacted at (409) 880-8347 or emailed at [DRC@lamar.edu](mailto:DRC@lamar.edu).

The Disability Resource Center offers a variety of services designed to assure students with disabilities equal access to the university's activities, programs and services. Some of the services provided include academic accommodations, assistive equipment, communication access service providers, note-takers, physical access and priority registration. Documentation of a disability from a professional in the field is required to receive services.

Students with disabilities should notify the director of DRC prior to registration in any university program. The director will arrange a meeting with the student to determine reasonable academic adjustments/accommodations. The Disability Resource Center is located in room 105 of the Communication Building. Students may write to P.O. Box 10087, Beaumont, Texas 77710, call 409.880.8347, fax 409.880.2225 or e-mail [DRC@lamar.edu](mailto:DRC@lamar.edu). Additional information is available at the DRC website, <http://www.lamar.edu/disability-resource-center/>.

## **TECHNICAL SUPPORT**

Technical Support can be located at <http://students.lamar.edu/it-services-and-support/index.html>.

For Blackboard technical support go to <https://blackboardsupport.lamar.edu>.

## **ACADEMIC SUPPORT**

Academic Support can be located at <http://students.lamar.edu/academic-support/index.html>.

## **STUDENT SERVICES**

Information on Student services can be located at <http://students.lamar.edu/student-services/index.html>.

## **ACADEMIC HONESTY POLICY**

Lamar University expects all students to engage in academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in their academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Disciplinary proceedings may be initiated against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion, and the abuse of resource materials.

*Plagiarism* shall mean the appropriation of another's work or idea and the unacknowledged incorporation of that work or idea into one's own work offered for credit.

*Collusion* shall mean the unauthorized collaboration with another person in preparing work offered for credit.

*Abuse of resource* materials shall mean the mutilation, destruction, concealment, theft or alteration of materials provided to assist students in the mastery of course materials.

*Academic work* shall mean the preparation of an essay, report, problem, assignment, creative work or other project that the student submits as a course requirement or for a grade.

Students are specifically warned against all forms of plagiarism, which include "purchasing, or otherwise acquiring and submitting as one's own work any research paper or other writing assignment prepared by an individual or firm." Plagiarism is defined as, "the appropriation and the unacknowledged incorporation of another's work or ideas into one's own offered for credit" (82). Students seeking to avoid plagiarism should consult either the course instructor or the most recent addition of the *MLA Handbook for Writers of Research Papers* or the most recent addition of the *APA Style Guide*, depending on your College requirements for writing research papers. The course instructor will complete a thorough and impartial investigation of any

instance of academic dishonesty. A student found guilty of academic dishonesty will be notified in writing by the instructor of the violation, the penalty, and the student's right to appeal the determination of dishonesty and/or the sanction imposed. Penalties for academic dishonesty in this course will result in either a lowered letter grade or failure of the course as determined by the instructor. The penalty may vary by instructor. For complete policy: go to

<https://students.lamar.edu/academic-support/academic-policies.html>.

### **COPYRIGHT POLICY STATEMENT**

Copyright is defined as the ownership and control of the intellectual property in original works of authorship which are subject to copyright law. As an institution of higher learning that values intellectual integrity, Lamar University prohibits the distribution of published materials (print or electronic) in violation of copyright law.

### **NETIQUETTE (ONLINE ETIQUETTE) STATEMENT**

Please adhere to the same standards of behavior and professional respect online that you would follow in face-to-face communication with others, but most particularly when writing email and when taking part in collaborative and discussion board activities. Lamar provides access to network resources, including the Internet, in order to support learning and to prepare students for the 21st century world. Students, however, are expected to adhere to the *Lamar University Acceptable Use Policies when Using Networks*. More comprehensive student code of conduct can be found at <https://students.lamar.edu/academic-support/code-of-conduct.html>.

### **ACCEPTABLE USE**

Students must respect the integrity and security of Lamar University computer systems and network, and the privacy and preferences of other users. Responsibility for learning about and complying with Lamar University Acceptable Use Policy ultimately rests with the individual. The network may be used to download, copy, or store any software, shareware, digital media files or freeware, as long as the use complies with copyright law licensing agreements, and campus policies, such as storage space limitations and network bandwidth restrictions. The network may not be used for any activity, or to transmit any material, that violates United States or local laws.

### **UNACCEPTABLE USE**

The network may not be used for commercial purposes. Advertising and sponsorships on Lamar University websites is restricted. In addition, students may not permit other persons to use their usernames, passwords, accounts or disk space, or disclose their usernames, passwords or account information to any third party. Students may not log on to someone else's account, internet address, or other network codes, or attempt to access another user's files. Students may not create false or dummy accounts to impersonate someone else. Students may not try to gain unauthorized access ("hacking") to the files or computer systems of any other person or organization. Students may not impersonate another person by forging e-mail, web pages or other electronic media. Students who maliciously access, alter, delete, damage or destroy any computer system, computer network, computer program, or data will be subject to disciplinary action by Lamar University, and criminal prosecution as well. Students may not disrupt or attempt to disrupt network traffic, and they may not attempt to monitor or capture network traffic in any way. Finally, students may not intentionally create, store, display, print or transmit information that violates the university's Sexual Harassment Policy.

### **GENERAL GUIDELINES TO RESPECT ALL PARTICIPANTS**

- Respect the right of each person to disagree with others.
- Treat people the same as you would face-to-face.
- Respect the time of others.

### **GUIDELINES WHEN COMMUNICATING WITH OTHERS (EMAIL, DISCUSSIONS, BLOGGING, AND ETC.)**

- Always sign your names to any contribution you choose to make.
- Be constructive in your responses to others in the class.
- Do not use all caps (Doing so may be interpreted as shouting).

- Re-read your postings before sending them.
- Always think before you write.
- Respond respectfully.
- Use appropriate grammar and structure.
- Spell-check your postings.
- Use short paragraphs focused on one idea.
- Use appropriate business language at all times.

## **DISTANCE EDUCATION LIBRARIAN**

Distance education students and faculty have access to a dedicated distance education librarian. Access this link, <http://libguides.lamar.edu/distancelearning> , for more information.

## **LAMAR UNIVERSITY PRIVACY POLICY STATEMENT**

Student records maintained by Lamar University comply with the Family Education Rights and Privacy Act of 1974 as amended (PL93-380). Detailed information should be accessed through this link: <https://sacs.lamar.edu/catalog/PrefMaterial/V.GenAcademicPol.htm#edurights>.

## **ACADEMIC CONTINUITY STATEMENT**

In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University's website's homepage (<http://www.lamar.edu>) for instructions about continuing courses remotely.

## **EMERGENCY PROCEDURES**

**\*Be sure to update your MyLamar Account with the most current information.\***

Many types of emergencies can occur on campus instructions for specific emergencies such as severe weather, active shooter, or fire can be found at <http://www.lamar.edu/about-lu/administration/risk-management/index.html>.

These procedures may or may not apply to you:

### ***Severe Weather:***

- Follow the directions of the instructor or emergency personnel
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building
- Stay in the center of the room, away from exterior walls, windows, and doors

### ***Violence / Active Shooter (CADD):***

- **CALL**- 9-1-1
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desk, chairs, bookcases or any items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it's safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

## **ACCESSIBILITY POLICIES**

Lamar University

<http://www.lamar.edu/about-lu/accessibility.html>

Blackboard

<http://www.blackboard.com/accessibility.aspx>

Firefox

<https://support.mozilla.org/en-US/kb/accessibility-features-firefox-make-firefox-and-we>

Microsoft

<https://www.microsoft.com/enable/microsoft/mission.aspx>

Adobe Acrobat

<http://www.adobe.com/accessibility/products/acrobat.html>

Adobe Flash

<http://www.adobe.com/accessibility/products/flash.html>

Adobe Connect

<http://www.adobe.com/accessibility/products/adobeconnect.html>

Adobe Reader

<http://www.adobe.com/accessibility/products/reader.html>

Java

<http://www.oracle.com/us/corporate/accessibility/policies/index.html>

Pearson Higher Ed

<http://www.pearsonhighered.com/educator/accessibility/index.page>

McGraw-Hill Higher Ed

<https://www.mheducation.com/about/accessibility.html>

Cengage Learning

<http://www.cengage.com/accessibility/>

ProctorU

<http://blog.proctoru.com/?p=345>

## **PRIVACY POLICIES**

Lamar University

<http://www.lamar.edu/about-lu/privacy-and-security.html>

Blackboard

<http://www.blackboard.com/Footer/Privacy-Center.aspx>

Firefox

<https://www.mozilla.org/en-US/privacy/>

Microsoft

<https://privacy.microsoft.com/en-US/>

Adobe

<http://www.adobe.com/privacy.html>

Java

<http://www.oracle.com/us/legal/privacy/overview/index.html>

Pearson Higher Ed

<http://www.pearsoned.com/privacy-policy/>

McGraw-Hill Higher Ed

<http://www.mheducation.com/privacy-and-cookie-notice>

Cengage Learning

<http://www.cengage.com/privacy/>

Proctor U

<http://www.proctoru.com/privacy.html>

YouTube

[https://www.youtube.com/static?template=privacy\\_guidelines](https://www.youtube.com/static?template=privacy_guidelines)

**Course Content Outline (Example)**

<b>COSC 4301 Computer Forensics</b>	
Week 1	<p><b>Welcome and Course Introduction</b></p> <p><b>Online Homework and Textbook Registration</b></p> <p>Students are required to introduce themselves via a discussion board during the first week of the course.</p> <p><b>Readings:</b></p> <ul style="list-style-type: none"><li>• Course Syllabus</li><li>• Chapter 1: The Scope of Computer Forensics</li><li>• Chapter 1: Key Terms</li></ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"><li>• Welcome and Introduction</li><li>• Chapter 1: The Scope of Computer Forensics</li></ul> <p><b>Activities</b></p> <ul style="list-style-type: none"><li>• <i>Complete all tasks on the To-Do-List</i></li></ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"><li>• Week 1 Assignment</li><li>• Rubrics for the assignment</li></ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"><li>• Introduce Yourself on the Discussion</li></ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"><li>• Quiz 1</li></ul>
Week 2	<p><b>Readings:</b></p> <ul style="list-style-type: none"><li>• Chapter 2: Windows Operating and File Systems</li><li>• Chapter 2: Key Terms</li></ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"><li>• Chapter 2: Windows Operating and File Systems</li></ul> <p><b>Activities</b></p> <ul style="list-style-type: none"><li>• <i>Complete all tasks on the To-Do-List</i></li></ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"><li>• Week 2 Assignment</li><li>• Rubrics for the assignment</li></ul> <p><b>Discussion(s):</b></p>

	<ul style="list-style-type: none"> <li>• General Discussion for Chapter 2</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"> <li>• Quiz 2</li> </ul>
Week 3	<p><b>Readings:</b></p> <ul style="list-style-type: none"> <li>• Chapter 3: Handling Computer Hardware</li> <li>• Chapter 3: Key Terms</li> </ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"> <li>• Chapter 3: Handling Computer Hardware</li> </ul> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• <i>Complete all tasks on the To-Do-List</i></li> </ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Week 3 Assignment</li> <li>• Rubrics for the assignment</li> </ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"> <li>• General Discussion for Chapter 3</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"> <li>• Quiz 3</li> </ul>
Week 4	<p><b>Readings:</b></p> <ul style="list-style-type: none"> <li>• Chapter 4: Acquiring Evidence in a Computer forensics Lab</li> <li>• Chapter 4: Key Terms</li> </ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"> <li>• Chapter 4: Acquiring Evidence in a Computer Forensics Lab</li> </ul> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• <i>Complete all tasks on the To-Do-List</i></li> </ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Week 4 Assignment</li> <li>• Rubrics for the assignment</li> </ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"> <li>• General Discussion for Chapter 4</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"> <li>• Quiz 4</li> </ul>
Week 5	<p><b>Readings:</b></p> <ul style="list-style-type: none"> <li>• Chapter 5: Online Investigations</li> <li>• Chapter 5: Key Terms</li> </ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"> <li>• Chapter 5: Online Investigations</li> </ul> <p><b>Activities</b></p>

	<ul style="list-style-type: none"> <li>• <i>Complete all tasks on the To-Do-List</i></li> </ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Week 5 Assignment</li> <li>• Rubrics for the assignment</li> </ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"> <li>• General Discussion for Chapter 5</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"> <li>• Quiz 5</li> </ul>
Week 6	<p><b>Readings:</b></p> <ul style="list-style-type: none"> <li>• Chapter 6: Documenting the Investigation, &amp; Chapter 7: Admissibility of digital Evidence</li> </ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"> <li>• Chapter 6: Documenting the Investigation, &amp; Chapter 7: Admissibility of digital</li> <li>• Chapter 6 and 7: Key Terms</li> </ul> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• <i>Complete all tasks on the To-Do-List</i></li> </ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Week 6 Assignment</li> <li>• Rubrics for the assignment</li> </ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"> <li>• General Discussion for Chapter 6</li> <li>• Discussion for Section 6</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"> <li>• Quiz 6</li> </ul>
Week 7	<p><b>Readings:</b></p> <ul style="list-style-type: none"> <li>• Chapter 8: Network Forensics</li> <li>• Chapter 8: Key Terms</li> </ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"> <li>• Chapter 8: Network forensics</li> </ul> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• <i>Complete all tasks on the To-Do-List</i></li> </ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Week 7 Assignment</li> <li>• Rubrics for the assignment</li> </ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"> <li>• General Discussion for Chapter 8</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p>

	<ul style="list-style-type: none"> <li>• Quiz 7</li> </ul>
Week 8	<p><b>Readings:</b></p> <ul style="list-style-type: none"> <li>• Chapter 9: Mobile Forensics</li> <li>• Chapter 9: Key Terms</li> </ul> <p><b>Lecture:</b></p> <ul style="list-style-type: none"> <li>• Chapter 9: Mobile Forensics</li> </ul> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• <i>Complete all tasks on the To-Do-List</i></li> </ul> <p><b>Assignments:</b></p> <ul style="list-style-type: none"> <li>• Week 8 Assignment</li> <li>• Rubrics for the assignment</li> </ul> <p><b>Discussion(s):</b></p> <ul style="list-style-type: none"> <li>• General Discussion for Chapter 9</li> </ul> <p><b>Assessment(s) Exams or Quizzes:</b></p> <ul style="list-style-type: none"> <li>• Quiz 8</li> </ul>