

CSCI352-01W - Intro to Digital Forensics (Fall 2021)

Course Syllabus

Instructor

Instructor: Song Huang, Ph.D.

Email: Song.Huang@tamuc.edu (always reachable via Email)

Office Location: Online, must log in myLeo Online

Office Hours: Meeting via Zoom at 4:00 - 5:00 PM every Wednesday

Preferred Form of Communication: Email

Communication Response Time: One business day

Course Description

This course presents an overview of the principles and practices of digital investigation. The objective of this course is to emphasize the fundamentals and importance of digital forensics. The course will highlight how computers are used in crimes and how these crimes can be investigated using forensic analysis. Students will learn different techniques, tools and procedures that enable them to gather, preserve, and analyze digital evidence. The focus will be on forensic analysis of storage media and how an operating system, stores data on media storage such as hard disks and USB devices.

Expected Outcomes

- Summarize various types of digital forensics.
- Outline the proper approach to collecting, seizing, and protecting evidence.
- Explain and properly document the process of digital forensics analysis.
- Gain an understanding of the tradeoffs and differences between various forensic tools.
- Create disk images, recover deleted files and extract hidden information.

Textbook

System Forensics, Investigation and Response (Information Systems Security & Assurance) by Chuck Easttom, Jones & Bartlett Learning; ISBN: 978-1284186338, 3rd edition.

Prerequisite

Lvl U CSCI 152 Min Grade C or Lvl U COSC 1337 Min Grade C or Lvl U COSC 1437 Min Grade C

Tentative Schedule

Tentative Schedule		
Week	Lecture	Reading
1	Introduction to Forensics and Overview of Computer Crime	Chapter 1 and 2
2	Forensics Methods and Labs	Chapter 3
3	Collecting, Seizing, and Protecting Evidence	Chapter 4
4	Understanding Techniques for Hiding and Scrambling Information	Chapter 5
5	Recovering Data	Chapter 6
6	Email Forensics	Chapter 7
7	Exam 1	
8	Windows Forensics	Chapter 8
9	Linux Forensics	Chapter 9
10	Macintosh Forensics	Chapter 10
11	Mobile Forensics	Chapter 11
12	Performing Network Analysis	Chapter 12
13	Incident and Intrusion Response	Chapter 13
14	Trends and Future Directions	Chapter 14
15	System Forensics Resources	Chapter 15
16	Exam 2	

Tentative Breakdown of Course Grade

Tentative Breakdown of Course Grade	
Reading Assignment	20%
Homework Assignment	10%
Projects	30%
Exams	40%

Letter grades will be determined using a standard percentage of points scale

Letter Grade	Cut-off Score
A	90%
B	80%
C	70%
D	60%
F	Below 60%

Reading Assignments, Homeworks and Exams

Reading Assignments

In each reading assignment, students will be asked to read some sections in the textbook and answer some questions. The questions are all essay questions and are related to the concepts that discussed during the lecture. The questions are open discussion type. Students need to do a little research and need to have a completed understanding of the concepts and give the their answers.

Homework Assignments

The homework assignments usually have some questions. No late homework will be accepted. Homework must be done individually, and students should learn how to solve problems.

Projects

Students are given 2 projects during the semester. The projects are required to be developed using high level programming languages, for example, Python, Java, and C++. Students can get help from online resources and help from the instructor.

Exams

There are 2 exams in the semester, Exam 1 covers the information given in the first half of the semester, and Exam 2 covers the the lectures in the second half of the semester.

Missing Assignments / Projects / Exams

Assignments, Labs, projects, and exams can be made-up only under extraordinary circumstances and only when notification is given to the instructor beforehand. Missing any of these without prior notification and a verifiable excuse (appropriate official documentation) results in a grade of 0.

Collaboration Policy

Students are encouraged to talk to each other, to the instructor, or to anyone else about any of the assignments. Any assistance, though, must be limited to discussion of the problem and sketching general approaches to a solution. **Each student must write out his or her own solutions to the homework.** Consulting another student's or group's solution is prohibited, and submitted solutions may not be copied from any source. These and any other form of collaboration on assignments constitute cheating. If you have any question about whether some activity would constitute cheating, please feel free to ask.

Academic Integrity

Your commitment as a student to learning is evidenced by your enrollment at Texas A &M University-Commerce. 11All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See

Student's Guide Handbook, Policies and Procedure, Conduct). All phones, pagers, and other communication devices are to be turned off or place on silent mode during class. Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. **Anyone cheating will receive a zero on the work they are doing, and subsequent cheating will result in a failing grade.**

Students with Disability

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library, Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Basic Tenets of Common Decency

"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (Student's Guide Handbook, Policies and Procedures, Conduct.) This means that rude and/or disruptive behavior will not be tolerated.

Disclaimer

This syllabus is meant to provide general guidance of what to expect from this course. The instructor reserves the right to make changes as appropriate based on the progress of the class. All changes made to this syllabus during the semester will be announced. This document has been posted electronically. If you print a copy of it, please be sure to consult the last modified date of the online version to verify that your printed copy is current.

TECHNOLOGY REQUIREMENTS

Browsersupport

D2L is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

Desktop Support

Browser	SupportedBrowserVersion(s)	MaintenanceBrowserVersion(s)
Microsoft® Edge	Latest	N/A
Microsoft® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A
Apple® Safari®	Latest	N/A

The syllabus/schedule are subject to change.

Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or point release of that major version) and the previous major version of iOS (the latest minor or point release of that major version). For example, as of June 7, 2017, D2L supports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version. Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
 - o 512 MB of RAM, 1 GB or more preferred
 - o Broadband connection required courses are heavily video intensive
 - o Video display capable of high-color 16-bit display 1024 x 768 or higher resolution
- You must have a:
 - o Sound card, which is usually integrated into your desktop or laptop computer
 - o Speakers or headphones.
 - o *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.
- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most current version of Java can be downloaded at: [JAVA web site http://www.java.com/en/download/manual.jsp](http://www.java.com/en/download/manual.jsp)
- Current anti-virus software must be installed and kept up to date.

The syllabus/schedule are subject to change.

Running the browser check will ensure your internet browser is supported.

Pop-ups are allowed.

JavaScript is enabled.

Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
 - o [Adobe Reader](https://get.adobe.com/reader/) <https://get.adobe.com/reader/>
 - o [Adobe Flash Player](https://get.adobe.com/flashplayer/) (version 17 or later) <https://get.adobe.com/flashplayer/>
 - o [Adobe Shockwave Player](https://get.adobe.com/shockwave/) <https://get.adobe.com/shockwave/>
 - o [Apple Quick Time](http://www.apple.com/quicktime/download/) <http://www.apple.com/quicktime/download/>
- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

ACCESS AND NAVIGATION

The syllabus/schedule are subject to change.

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

Brightspace Support

Need Help?

StudentSupport

If you have any questions or are having difficulties with the course material, please contact your Instructor.

TechnicalSupport

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

System Maintenance

D2L runs monthly updates during the last week of the month, usually on Wednesday. The system should remain up during this time unless otherwise specified in an announcement. You may experience minimal impacts to performance and/or look and feel of the environment.

Interaction with Instructor Statement

Interaction with Instructor Statement: For general questions and assistance with the course, the instructor will keep a schedule of 6 regular office hours per week. If a student cannot meet during the designated schedule, arrangements can be made to meet at a more convenient time. An email should be sent to the instructor at least 24 hours prior to

The syllabus/schedule are subject to change.

the time the student plans on meeting. Generally, I will reply to your e-mail messages in a timely manner. A reply can be expected within 24 hours.

My responsibilities:

- 1) Make sure to accommodate all your learning needs
- 2) Try my best to answer your questions and resolve other related issues
- 3) Give feedback and your grade on assignments within one week of the due date.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Class Decorum Civility in the classroom or online course and respect for the opinions of other is very important in an academic environment. It is likely you may not agree with everything that is said or discussed in the classroom/online course. Courteous behavior and responses are expected. To create and preserve a learning environment that optimizes teaching and learning, all participants share a responsibility in creating a civil and non-disruptive forum. Students are expected to conduct themselves at all times in a manner that does not disrupt teaching or learning. Faculty have the authority to request students who exhibit inappropriate behavior to leave the class/online course and may refer serious offenses to the University Police Department and/or the Dean of Students for disciplinary action. (See Student Guidebook)

Academic Honesty

It is the policy of the University, the History Department, and the instructor that no form of plagiarism or cheating will be tolerated. Plagiarism is defined as the deliberate use of another's work and claiming it as one's own. This means ideas as well as text, whether paraphrased or presented verbatim (word-for-word). Cheating is defined as obtaining unauthorized assistance on any assignment. Collusion is defined as selling or purchasing academic products with the intention that they be submitted to fulfill an academic or course requirement. Proper citation of sources must always be utilized thoroughly and accurately. Cheating/plagiarism/collusion will result in a grade of "0" for the assignment, and may also result in failure of the course and/or disciplinary action by the University. Any student found guilty of violating academic integrity policy will fail the assignment in question, will automatically fail the course and will be subject to disciplinary action by the university (see Texas A&M University-Commerce Code of Student Conduct 5.b. [1,2,3]). Further information on the history department's plagiarism policy can be found on the department webpage. If you are unclear about what constitutes academic dishonesty, ask.

Writing Center

The syllabus/schedule are subject to change.

Students are encouraged to take advantage of the Writing Center's resources for assistance with drafting their written assignments. Although the center will not write your paper for you, it may help you to improve your writing skills. If you use the Writing Center, plan in advance because it can only help you if there is adequate time to incorporate their suggestions into your paper. Additionally, I am willing to read rough drafts (and even multiple drafts) of your written work so long as the drafts are submitted at least one week prior to the due date.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](#).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: [Netiquette](#)

<http://www.albion.com/netiquette/corerules.html>

TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

The syllabus/schedule are subject to change.

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed

The syllabus/schedule are subject to change.

handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url: <http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

HAVE A HAPPY AND SUCCESSFUL SEMESTER

The syllabus/schedule are subject to change.