Computer Forensics

Course Description
This course will introduce graduate students to the fundamentals of computer forensics and cyber-crime scene analysis. The various laws and regulations dealing with computer forensic analysis will be discussed. Students will be introduced to the emerging international standards for computer forensic analysis, as well as a formal methodology for conducting computer forensic investigations. Several forensics tools such as Encase and FTK will be used to conduct digital forensics investigation. Prerequisite: Data Structures

Learning Objectives
Upon successful completion of this course, the student will be able to:
1. Demonstrate an understanding of the various laws dealing with computer forensic analysis;
2. Demonstrate a working knowledge of basic computer forensics applications and tools;
3. Understand the rules of evidence and the importance of the chain of custody;
4. Understand the fundamentals and basic principles of computer forensics and crime scene analysis; and
5. Apply the principles and procedures of computer forensics

Major Course Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>40%</td>
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<tr>
<td>Final Exam</td>
<td>40%</td>
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<tr>
<td>Research Paper</td>
<td>10%</td>
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<tr>
<td>Homework-hands on Labs</td>
<td>10%</td>
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Required or Recommended Readings


Course Policies

Incompletes: An incomplete will only be granted in the case of serious illness. Written proof of the illness and a recommendation for an incomplete will be required from both the Dean of Students office as well as from a doctor. A grade of incomplete is never issued to give a student more time to complete assignments or improve a grade. The final determination as to whether or not an incomplete should be issued rests solely with the professor.

Policies

Attendance and Preparation Expectations and Policies
1. Class attendance is essential to success in this course.
2. Materials will only be handed out in class.
3. A minimum of 2 hours of preparation for each hour of lecture should be the norm.
4. Assigned readings should be completed before class. Questions from readings should be brought up in class.
5. If you don't attend class regularly, please don't expect individual help.
6. Quality note taking is essential to success in this course.
7. Seek help early. Don’t wait until poor performance on exams.
8. Assigned readings are assumed to be completed as scheduled. Expect a quiz every class period on assigned readings and you will never be surprised.
9. Lab and class attendance is mandatory. There are NO excused absences.

**Courtesy Expectations**
1. Please be in class on time. Late students disrupt class. If you arrive late to class please enter from the rear of the classroom.
2. Talking or passing notes to other students in the classroom distracts both the instructor and your fellow students.
3. Finally, if you prefer to sleep or read newspapers, do not come to class.

**Quiz and Exam Policies**
1. Quizzes may be either take-home or in-class. Take home quizzes will only be available in class. If you don't get a take home quiz, your grade is 0. In-Class quizzes are usually short and given during the first 3 to 5 minutes of class. If you're late to class, your grade is 0.
2. There are no make-up quizzes under any circumstances for any reason.

**Homework Policies and Quality Expectations**
1. All assignments or take home quizzes are due by e-mail at the beginning of the class period.
2. Late assignments will be penalized as follows: 2 points per hour late.

**Re-Grading Policies**
1. Any student wishing to appeal a score should return his/her assignment or exam with a written statement explaining his/her appeal. An appeal must be submitted no later than one week after the student received the original score (scores posted).
2. Any work submitted for grade appeal may be totally re-graded, not merely those portions which the student wishes to be re-graded.
3. Discussion of corrected exams or quizzes may be done during any office hour or by appointment.

**Cell Phone/Electronic Device Usage – Must turn them off**

**Academic Integrity/Plagiarism.**

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in failing the assignment and if repeated, failing the class.
**Dropping a Class**

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. April 10th is the last day to drop a class with automatic grade of “W” this term.

**Preferred methods of scholarly citations**

**Classroom/professional behavior**

Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

**Statement of Civility (can be in place of classroom/professional behavior)**

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

**Grade Appeals (College of Science and Engineering Version)**

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage ([http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html)). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

**Disabilities Accommodations**
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 believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

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Statement of Academic Continuity

In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

Syllabus

(course outline)

Introduction
Introduction to Computer Forensics
Understanding Computer Investigations Ch 2
Conducting and Investigation: Chain of Evidence Ch 3
Data Acquisition: Ch 4
Processing Crime Ch 5
Windows File Systems: Hard Drives Ch 6
Computer Forensics Tools Ch 7
Macintosh and Linux Systems Ch 8
Midterm Exam
Computer Forensics Analysis and Validation Ch
Recovering Graphics Files Ch I
Virtual Machines, Network Forensics Ch 11
E-mail Investigation Ch 12
Research Paper
Final Exam