



DIGITAL FORENSICS
INFORMATION ASSURANCE

DFIA 460 Applied Digital Forensics

Course Syllabus

Fall 2018

WAEC 1232

MWF – 1:00 – 1:50

Lab – Weds 2:00 – 2:50

Instructor – John Sammons

Office – Weisberg Applied Engineering Complex – WAEC 2003

Office Phone – 304-696-7241

eMail Address – john.sammons@marshall.edu

Office Hours:

Monday 11:00am – 12:00pm

Tuesday 1:00pm – 2:00pm

Wednesday 11:00am – 12:00pm

Thursday 1:00pm – 2:00pm

Friday 11:00am – 12:00pm

All other times by appointments

* Please send me an email to schedule a meeting if possible. Sometimes I get pulled away even during office hours.

Textbook

None. Readings will be assigned by the instructor.

Credit

The course is four (4) credit hours.

Pre/co-requisites

IST 264 Technology Foundations

IST 449 Data Recovery and Analysis/DFIA 400 Intro to Digital Forensics

Course Learning Objectives

Course Student Learning Outcomes	How students will practice each outcome in this Course	How student achievement of each outcome will be assessed in this Course
Students will effectively explain the function of key Windows forensic artifacts.	PowerPoint/Prezi development, peer & instructor review, journal assignments, Quizlets,	Presentations, Quiz questions, concept map, high stakes writing assignment, “hot seat” quizzes
Students will demonstrate their ability to communicate effectively both orally and in writing.	PowerPoint/Prezi development, peer & instructor review, journal assignments, Quizlets	Presentations, Quiz questions, concept map, high stakes writing assignment, “hot seat” quizzes
Students will correctly interpret, locate, preserve, collect, analyze, and interpret common Windows and Registry artifacts as they relate to the facts and circumstances of a particular investigation.	Journal exercises, in-class team assignments, Quizlets, Practical exercises, journal assignments	Quizzes, “hot seat” quizzes, high stakes writing assignment
Students will arrange key course content into a comprehensive, detailed concept map that clearly demonstrates the relationship of one concept to another.	Module concept maps	Mid-Term & Final Concept Maps

Blackboard – Unless otherwise stated, ALL assignments must be submitted on time through Bb. It’s your responsibility to know how to do this. Late work will not be accepted without a verified or university approved excuse. Should you have some issue that prohibits you from completing the assignment on Bb by the deadline, you should email the assignment to me via my MU email account. This should be before the due date as well. If not, it will not be accepted. You should collect proof that supports your reason for the work being late. Work that is not in Bb will likely not be graded.

Grade Appeals – Should you feel an assignment/test question was graded in error, you may appeal. However, your appeal MUST FOLLOW THIS PROCEDURE and FORMAT. You will submit the appeal through Bb email only. Appeals sent elsewhere will not receive a response. The subject line MUST say this “APPEAL – Test/Assignment Name.” In the body of the email list the entire question, your answer, and why you think you deserve credit.

Instruction Method

There will be 3 contact hours of classroom instruction per week. Coursework will include classroom lectures, a learning journal, and exams along with a variety of low, med and high stakes writing assignments. You are expected to take an **active role** in your learning. Discussions and writing assignments play significant roles in the conduct of the course.

This course will be taught using active learning methodologies. This means that lectures, as a delivery method will be limited. For students, this means that you will be expected to complete all assigned “pre-work” before the start of class, participate in group assignments, and complete in-class exercises.

Lab

There is a lab with this course. It meets on Weds from 2:00 – 2:50 in WAEC 1232. Lab exercises will generally compliment/coincide with the material covered during lectures. Unless otherwise stated, all lab assignments will be submitted through Bb. You are asked to please be on time for the lab session (if not a little early). We only have 50 min and it will take some time to get the software/VM’s started/configured. You should bring your AccessData Academic Manual with you to lab.

Evaluation method

Course grades will be based on a total points system. Your grade will be based on a percentage of the total points possible.

Approximate Course Point Distribution

Assignment/Assessment	Points Possible
Midterm & Final Exam (Concept Map)	200
Projects & Assignments	200
Learning Journals	330
Tests	500
Lab Assignments	200
Total	1430 (Approx. Subject to change)

Final letter grades are determined based on the following grading scale:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0 – 59%	F

The instructor reserves the right to change these values depending on the overall class performance and/or extenuating circumstances. Please note that your final grade will be calculated by hand, NOT from the totals/weights that you may see on Bb. Grades will be posted as quickly as possible into Bb. However, please keep in mind that those times will vary.

Policy Statement

My Academic Dishonesty Policy

Academic Dishonesty is defined as any act of a dishonorable nature which gives the student engaged in it an unfair advantage over others engaged in the same or similar course of study and which, if known to the classroom instructor in such course of study, would be prohibited. Academic Dishonesty will not be tolerated as these actions are fundamentally opposed to "assuring the integrity of the curriculum through the maintenance of rigorous standards and high expectations for student learning and performance" as described in Marshall University's Statement of Philosophy.

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802

Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

In this course, STUDENTS ARE NOT TO "COPY & PASTE" MATERIAL FROM A SOURCE INTO ANY ASSIGNMENT UNLESS SPECIFICALLY AUTHORIZED BY THE INSTRUCTOR.

If you are found cheating on projects or plagiarizing answers from the Internet or other sources (among other things), there will be no second chance. Your penalty is that you will receive a failing grade for the course. In those cases in which the offense is particularly flagrant or where there are other aggravating circumstances, additional, non-academic, sanctions may be pursued through the Office of Judicial Affairs. Notice of an act of academic dishonesty will be reported to the Department Chair, Dean of the College of Science, and to the Office of Academic Affairs. Please refer to the Marshall University Undergraduate Catalog for a full definition of academic dishonesty.

College of Science IT Student Conduct Agreement

In order to complete this course, you must read, sign, and comply with the COS IT conduct agreement. The agreement is available online here: <http://www.marshall.edu/cosweb/agreements/?a=j3qw3>

This code of conduct **MUST** be read and signed by you no later than **Friday, August 24, at 5:00 PM**. If you fail to sign this agreement, your access to the computers in WAEC 1232 will be **REVOKED** until you do.

Assignments

The course includes a number of writing assignments. All assignments are due **BY THE TIME NOTED ON Bb**, on their due date. **NO LATE ASSIGNMENTS WILL BE ACCEPTED**. There are VERY specific cutoff dates/times for submission. Please do not procrastinate. If you wait until the last night to start a writing assignment, chances are, you will fail. All (or the majority of) assignments **MUST** be submitted through Bb. Should some technical issue arise that makes this impossible, the instructors University email address will serve as the secondary means of submission. Bb email is the last method of submission. Should submission prove to be impossible, students are expected to leave a voice mail on the Instructors office phone. In ALL instances, any email or voicemail **MUST** have a date/time stamp that is **BEFORE** the due date/time of the assignment. Submissions that do not will be rejected.

File Names

All electronic submissions must follow this file naming convention:

DFIA 460_Last Name_First Initial_Assignment Name.doc ("dfia460_sammons_j_researchpaper.doc")

Make-up Quizzes/Assignments and Late Penalty

Make-up exams will not be given except under unusual circumstances and satisfactory written justification. Any student who misses a quiz/assignment due to an unexcused absence will receive a grade of zero with no opportunity for make-up or substitution. Only University excused absences or those occurring with a good reason (and that reason must be given prior to missing the quiz/assignment) will be accepted. Make up quizzes/assignments must be taken within one week of the original scheduled date. The decision to allow a make-up quiz or accept late work rests with the instructor. Please note, your university excuse MUST be received by me within TWO weeks of the missed assignment/test. Excuses received after that time will not be accepted.

Attendance Statement & Policy

Attendance is absolutely vital to your success in this course and your ability to learn and retain this material. As such, attendance is mandatory. You will be permitted TWO unexcused absences for the entire semester. Each unexcused absence after that will result in a one letter reduction of your grade. Top Hat will be used to collect attendance every day in class.

Excused Absence

1. University-sponsored academic activities (performing arts, debate and individual events, honors classes, ROTC); official athletic events; other university activities (student government).
2. Student Illness or Critical Illness/Death in the Immediate Family:” Immediate Family” is defined as a spouse/life partner, child, parent, legal guardian, sibling, grandparent or grand- child. ***Routine doctor appointments are not excused. Appointments should be scheduled around your classes.**
3. Short-Term Military Obligation
4. Jury Duty or Subpoena for Court Appearance
5. Religious Holidays

Unexcused Absences

- If you miss two classes, I will issue a warning.
- If you miss a third class: You will receive an automatic one letter grade deduction in the course.
- We will conference to discuss your standing and develop a plan of improvement. If you meet its criteria, you may have the chance to earn back the letter grade deduction.
- If you miss a fourth class, the previous letter grade deduction stands, regardless of improvement plan results.
- Subsequent missed classes will result in an additional letter grade deduction for each absence.

Student’s Responsibility

- Provide appropriate documentation to Dean of Student Affairs for excused absence. Learn how the process works here: <http://www.marshall.edu/student-affairs/excused-absence-form/>

- Request opportunity to complete missed work **immediately upon return to class.**
- Be aware that excessive absences—whether excused or unexcused—may affect your ability to earn a passing grade.
- Regardless of the nature of the excused absence, you are responsible for completing all coursework **prior to the end of the semester.**

Top Hat

Students will need to create a Top Hat user account and purchase a Top hat subscription plan for use within this course. Subscription plans vary from 4-month access, semester access, to lifetime access. Top Hat can either be purchased online or through MU Bookstore.

Top Hat will be used not just to track attendance, but for class quizzes, reviews, etc. The join code for this course is 864731 and the course homepage is <https://app.tophat.com/e/864731>. Tophat can be used from either a PC or via the Android/iOS app on a mobile device. Students can also text-in answers to +1 (315) 636-0905 via SMS. This is ideal for poor wifi or older mobile devices.

Class Cancellation

There may come a time during the semester when class could be cancelled (illness, weather, etc.). Should that occur, I will notify everyone through their official university email as well as post an announcement on Bb. You are responsible for checking these early and often to ensure that class will be held as scheduled. Should there be some technological issue that prevents me from doing that, a sign should be posted on the classroom door.

Professionalism

In this course you will be treated as professionals and will be expected to behave and perform as such. As professionals, you will be expected to attend class, be on time, complete all assignments, meet deadlines, ask questions when you don't understand, and participate. Participating in class means that you are not on your cell phone or surfing the Internet. If you can't be in class, I expect you to let me know ahead of time. Your classroom language and demeanor should also be professional at all times. Written communication with me must also be professional. You are expected to follow the guidelines in the "How to Email My Professor" article.

University Holidays & Key Dates

September 3, Monday

Labor Day – University Closed

October 8, Monday

Midterm grades due

October 26, Friday

Last Day to Drop

November 19, Monday – November 24, Saturday

Thanksgiving Break – Classes Dismissed

November 26, Monday

Classes Resume

December 3, Monday – December 7, Friday

Dead Week

December 7, Friday

Last Class Day

December 10, Monday – December 14, Friday

Final Exams

Expectations

1. Work/Think Hard
2. Participate
3. Act with Integrity
4. Embrace the Challenges
5. Tell Me if You Have a Problem
6. Own Your Mistakes and Shortcomings
7. Help Your Fellow Students
8. Be Willing to Work Outside Your Comfort Zone
9. Have FUN!
10. Treat Everyone with Respect
11. Read the Syllabus
12. Check Bb and Your Email Very Often
13. Check Bb for Due Dates and Assignment Specifics
14. Read ALL of the Assigned Materials

Technical Competencies

Students are expected to be proficient working with AD Forensic Toolkit, FTK Imager, Registry Viewer, and Microsoft Office products or their equivalent. In addition, students will need an application to create concept maps. VUE, from Tufts University is the recommended tool for this purpose. It's a free, open source tool that works well on Windows or Macintosh computers. It can be downloaded here: <http://vue.tufts.edu/>. VUE is very simple to use with a very short learning curve. Students are also expected to be proficient using the Blackboard system (submitting assignments, navigating the class space, taking tests, etc.).

Topics and Methodology

The following outline delineates the tentative class schedule with topics to be addressed during the course. It could vary based on class progress and performance.

Week	Dates	Lecture Topics	Reading
1	Aug 20-24	Intro, Module "0" Data Storage	Bb
2	Aug 27- Aug 31	Data Storage	Bb
3	Sept 3 - 7	File Systems	Bb

4	Sept 10 - 14	Windows Registry	Bb
5	Sept 17 – 21	Windows Registry	Bb
6	Sept 24 - 28	Windows Artifacts	Bb
7	Oct 1 – 5	Windows Artifacts	Bb
8	Oct 8- 12	Midterm	N/A
9	Oct 15 - 19	Ethics/ eDiscovery	Bb
10	Oct 22 - 26	Examination & Analysis	Bb
11	Oct 29 – Nov 2	Examination & Analysis/Final Project	N/A
12	Nov 5 - 9	Final Project	Bb
13	Nov 12 -16	Final Project	Bb
14	Nov 19 - 23	Thanksgiving Break	Bb
15	Nov 26 – Nov 30	Final Projects	Bb
16	Dec 3 – 7	Final Review	N/A

Every student is responsible for all materials presented in class, including lectures, notes, and handouts. In case you are not present for a class, it is your responsibility to contact the instructor and receive information about the material presented in that class.

Effort Required

This course requires significant effort both in and out of class. Outside of class students will be expected to keep pace with the reading/videos and come to class prepared. If you come to class unprepared it will negatively impact your ability to complete the lab exercises. For every 1 hour in class, the student is expected to put in an effort of at least 3 hours outside the class for studying and completing writing assignments. Depending upon background and preparedness, some students may have to put in additional effort. **DO NOT PROCRASTINATE.**

Prioritize, schedule, and take responsibility for your actions and you should do very well in this class. To be successful in this course, you **MUST** take an **active** role in the learning process. To be successful in the course, you must do the work. You must also manage your time effectively. Throughout the semester, you may be given time in class to work on various assignments. I STRONGLY encourage you take full advantage of this opportunity.

Blackboard and Module 0

Your first assignment is to complete Module 0. This module is located on Bb. Part of this module is a quiz that you are expected to complete the first week of class. This quiz covers course administration, procedures, rules, policies, etc. Module 0 lays the groundwork for the rest of the semester. You are expected to read and familiarize yourself with all the material in Bb and its location. You should go through Bb and see what resources and information are available to you. From time to time, you may find assignments, etc. that are left over from a previous semester. Check the dates. Unless the dates are current, those assignments aren't applicable. You may also ask me for clarification. In regard to due dates, they should be clearly listed in Bb. The date in Bb is the date we will go by. If you need to know when something is due, check Bb. I don't commit to memory every due date for every assignment in all of the classes I teach.

Learning Journal

As part of this course, each student must maintain a learning journal. This journal will contain a variety of low stakes assignments, many to be done in class. It is your responsibility to keep it current. It will be turned in at the end of each

learning module as a single document. Do NOT procrastinate. The journals are graded **ALL OR NONE**. If you complete all entries, you will receive full credit. **ANY** missing entries will result in a 0.

You will need your journal during almost every class therefore you must ensure it's available when you need it. It is your responsibility to ensure that it's kept safe. You would be wise to make frequent back-ups of your journal. You may want to consider using Dropbox (www.dropbox.com) or Google Drive.

Tests & Readings

The number of quizzes/tests will vary, depending on class progress, participation, and the how well students keep up with assignments, readings, etc. Generally, there will be a test for each module. Students are expected to keep up with all reading assignments and come to class prepared to discuss the material.

Communication

Private E-mail (Marshall email) will be used to make any general announcements, last minute changes, etc. It is **mandatory** that you monitor your email messages at least once a day. PLEASE ONLY USE MY MARSHALL EMAIL ADDRESS FOR CORRESPONDENCE. Messages left on Blackboard will result in extremely delayed/no response. Please read and follow the guidelines outlined in the "How to Email Your Professor" article. There is a link to it posted on Bb.

All written communications, including discussion postings, emails and written assignments should be professional and courteous. Format, structure, organization, tone, clarity, spelling and punctuation all contribute to effective communication and are expected in all student communications. Any communication not deemed an appropriate business communication may be disregarded by the instructor or points may be taken off, at the sole discretion of the instructor. Students are expected to thoroughly proofread all communications

Using my University email ensures you get a response and the course run smoothly. During periods of inclement weather, check your email and Bb the night before, and the morning of class to see if it has been cancelled.

There is a great deal of information in Bb regarding the conduct of the course, additional resources, etc. You are expected to read and navigate through this material.

Note About Cell Phones and Internet in Class

Please set your cell phone ringer to "Vibrate Only" mode (or turn it off) before you enter the classroom. While in class, you will be expected to work on class related materials/assignments. Please do not surf the Internet and work on other assignments unless authorized by the instructor.

During tests, cell phones MUST be put away. No exceptions.

Disclaimer

The instructor reserves that right to modify the course schedule and evaluation system should it become necessary for the effective conduct of the course.

Social Networking

I often receive friend requests from students via Facebook. It is my policy however, not to accept these requests from current students. This is absolutely nothing personal, so please do not take it as such. You are welcome to follow me on

Twitter and or join my network on Linked-In. Please join us on the MU Digital Forensics Facebook page. There is lots of good information there including job and internship opportunities.

Please participate in our social media channels:

Facebook:: Marshall Digital Forensics & Appalachian Institute of Digital Evidence

Twitter:: @ MUDigForensics & @AppyIDE

Get Involved!

There are tremendous opportunities here beyond your coursework. The student chapter of AIDE (Appalachian Institute of Digital Evidence), internships, and research are just some of the possibilities. Involvement in these activities is what can separate your resume from the others. Do not miss this opportunity. See me for details. Also, get to know the faculty. Introduce yourself, stop by and see us. The more we communicate and get to know you, the more we can help you.

Join the MU DFIA Slack site! You'll get great advice from alumni faculty mentors and faculty. See the instructor for details.

Recommendations

I am very happy to write recommendations for students. My only requirement is that you give me a basis/foundation for a recommendation. Here's what I mean. If you don't get involved, earn average grades, show up late for class, do the bare minimum, don't do research, etc. I have nothing to write about.

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