

Advanced Digital Forensics CET4861 Syllabus



Department and Course Number: CET4861
Course Title: Advanced Digital Forensics
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Department Homepage:
<http://www.daytonastate.edu/CampusDirectory/deptInfo.jsp?dept=ENT>
Faculty Web Page:
<http://tinyurl.com/3lzgam9>

Course Description

Covers theory of forensic procedures, review of identification, imaging, and authentication, review of FAT file system, NTFS and EXT3 file systems, partitioning, Window's logical analysis, and email and web history analysis.

Learning Outcomes

After taking this course students will be able to:

- Identify, image, and authenticate digital evidence.
- Employ Linux and Windows-based digital forensics tools for a particular forensic task.
- Identify key components of various file systems.
- Perform an analysis of email and web history.
- Demonstrate an understanding of data hiding techniques.
- Cell phone analysis! (I'm working on this)

Pre-Requisites

CET4663 (Computer and Network Security), AND CET4860/4885.

Required Text

File System Forensic Analysis [Paperback], Brian Carrier
Paperback: 600 pages
Publisher: Addison-Wesley Professional; 1 edition (March 27, 2005)
Language: English
ISBN-10: 0321268172

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ISBN-13: 978-0321268174

This is a FANTASTIC book (look at the Amazon ratings). Probably one you will want to keep.

This text should be available from the DSC bookstore *as well as other online stores* (hint hint, nod nod, wink wink). I will also provide you with several other required readings, in PDF format. If you don't have a PDF reader, I suggest you download Foxit Reader (free for Windows). You can download Foxit Reader at:

<http://www.foxitsoftware.com/pdf/reader/>

It's much less bloated than Adobe Acrobat reader and has more functionality. If you already have Adobe Reader and don't want to use Foxit Reader, that's fine.

Content and Organization

1. Specific topic coverage includes:
 - a. Computer Forensics and Investigation as a Profession (review)
 - b. Understanding Computing Investigations (review)
 - c. Data Acquisitions (review)
 - d. Processing Crime and Incident Scenes (review)
 - e. Working with Windows
 - f. Current Computer Forensics Tools
 - g. Macintosh and Linux Boot Processes and File Systems
 - h. Computer Forensics Analysis and Validation
 - i. Recovering Graphics Files
 - j. E-mail Investigations
 - k. Report Writing for High-Tech Investigations

The chapters will be covered in varying levels of detail. Some chapters I may have you only read, whereas other chapters we will cover more in-depth and have a hands-on project. For the chapters involving only reading I WILL have a question or two on one of the other assignments that you will have to answer, to ensure you are reading the chapters.

How to Access Course Materials

Most course materials will be housed on Florida Online. If you haven't been to Florida Online you can access at:

<http://online.daytonastate.edu>

The textbook comes with a CD that has all project files as well as classroom notes and some videos that will supplement my own videos. So you WILL need the textbook for this course (that's why it's required).

Course Delivery

This is a 100% online course. Lectures are provided via recorded video lectures that you play through your browser (see the photos above). I will include the link to these videos on the Florida Online class site.

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I STRONGLY SUGGEST that you run the video and follow what I'm doing on screen. That is, duplicate what I do, or duplicate what is done on the videos that come with the textbook. The ONLY way to learn is by DOING. You can follow along with what I'm doing in order to help you understand the concepts, and to provide you with some confidence that this stuff isn't magic. Pause the video, duplicate what I've done, and repeat.

I won't provide all of the materials at once, but will try to keep a week ahead on the videos. Note that only on occasion will I see my 'talking head'. I try to keep the video lectures as small in size as possible, so I don't always include the video of me.

If you are unfamiliar with Florida Online I suggest you go through the Student Orientation, it is near the upper right-hand corner once you login to your Florida Online account.

Course Software

Believe it or not (for students from my other courses), the primary operating system we will use Windows for quite a bit of the projects. We will also use Linux, so you will need access to both.

You will still need to download and install VMWare so that I can share virtual machines with you for your projects. I will provide you with access to a FREE copy of VMWare Workstation (usually about \$180). VMWare allows you to install and run various operating systems within a virtual machine. You will download and install VMWare on your home since this is an online course. I suggest that you install Windows XP or 7 in a virtual machine, as well as Linux (either Mint or Ubuntu, they are essentially the same.)

A good reason to familiarize yourself with virtual machine technology is that it is the wave of the future. Businesses have found a significant return on investment by replacing multiple physical servers with fewer servers running multiple virtual machines. If you want to be ready for your next job, then you should be familiar with virtualization technology.

For more information on VMWare Workstation go to:

<http://www.vmware.com/products/workstation/>

Instructions for Downloading VMWare

1. Near the end of the first week of class you should receive an email in your FalconMail from "E-Academy." DO NOT DELETE THIS EMAIL. It has instructions on how to download VMWare Workstation.
2. If you do not receive an email, or accidentally delete the email, follow these instructions:
3. Copy and paste the following web address into your web browser:

<http://tinyurl.com/3whaq92>

4. in the username field type in YOUR complete Falconmail address. For example

john_smith@falconmail.daytonastate.edu

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5. Click the "Forgot Password" button. This will send an email to your Falconmail account that describes how to reset your password.
6. Follow the instructions in the email.
7. Log back into the VMWare academic site using your username and new password.
8. Download VMWare Workstation. Remember where you downloaded the file.
9. You should receive an email in your Falconmail with an authorization code (serial number) that you will cut and paste into the appropriate field during the installation process.
10. Find the installation file and double click it to begin the installation process. When asked for the authorization code, copy & paste the code from your Falconmail email into the appropriate textbox (or type it, careful not to make mistakes).
11. STORE YOUR AUTHORIZATION CODE IN A SAFE PLACE, IF YOU NEED TO INSTALL AGAIN YOU WILL NEED THAT INFORMATION (e.g., DO NOT delete the email, so you will always have access to the code).
12. You should now have a fully functioning version of VMWare Workstation! I will create and post a video that demonstrates how to install Linux within a virtual machine. Or you can try it yourself, it's not rocket science.

Note that you can only download EACH available product only once from this site. If you need to install again, you can go to www.vmware.com and download the installation file again, making sure you use the same code for installation.

How to Contact the Professor

There are several ways you can contact me. If you have a PERSONAL question that would only relate to you, you can email through the class email or the email address listed at the top of this page. If you have a CLASS-RELATED question, please post to the ASK THE PROFESSOR discussion group. I always have a few questions that everyone in the class would like answered, so it's best to post to the discussion group so everyone can benefit from the answer to the question (and I don't have the answer the same question through 10 emails, it's just more efficient and everyone benefits).

You may also call me directly at the phone number at the top of the syllabus. Again, only use this for personal questions, not class-related questions (which should be posted to the "Ask the Professor" discussion group).

Asking 'Smart' Questions

DO NOT BE AFRAID TO ASK QUESTIONS! However, if you ask a question in the "Ask the Professor" discussion group, please make sure you provide me with enough detail in your questions so I can answer them. In your question make sure you include what you were trying to do, the equipment you are using, and what the error message was. There's nothing worse than a student saying "I clicked on the icon and it won't come up. What should I do?" Ok, WHAT icon? Are you trying to install VMWare? Run VMWare that's installed? Trying to start an instance of the VM? What was the error message you received? And so on. I can't provide you an answer unless I know the context of the error.

Student-to-Student Communication

I will setup a "General Discussion" group that you can use to post questions, comments, or

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suggestions to other students. In fact, you can talk about anything you want in this discussion group, EXCEPT for the answers to tests and assignments (of course).

Students are not competing for grades, and should be willing to assist each other. In the classroom students have the opportunity to casually chat, as well as, ask for and provide mutual assistance. In fact, helping others is a very good way to learn, I highly recommend it.

Attendance

You 'attend' class by viewing the lectures, completing and upload assignments, and participating in discussions in the discussion forums. You should login to the class website at least once a day to see what is going on in class. I may post discussion questions, send you an email, or post important updates.

Next week I have to report on your attendance. We're doing it a little differently for my two forensics courses.

Please watch this video (short, 6 minutes).

[DOD Cyber Crime Self Assessment](#)

It's a test that assesses your current knowledge of digital forensics. The video should be self-explanatory. Make sure you take the Expert levels of both Digital forensics lab, and Digital forensic examination. **DO NOT WORRY ABOUT THIS PRE-TEST SCORE.** Once you get your score please take a screen shot and upload to the Dropbox DOD Self Assessment dropbox. It's only 15 multiple choice questions so it can be done very quickly.

The due date on this is Sept 2 at 11:55PM. Don't miss that date as I want to count you as attending!

NOTE: If you are in BOTH Advanced Forensics AND Network Forensics you only need to do this ONCE. Thanks!

Online courses require students to be more mature, organized and pro-active. Since this is a 4000 level course I expect that from each student. So again, make sure you login at least once a day. I'll be watching.

Course Withdrawal

It is your responsibility to withdraw officially from this course if you no longer wish to pursue a grade. Although it is not necessary to have approval from your instructor to withdraw from the course, it is a good idea to discuss the situation with your instructor. Many times the issue can be resolved with communication. Feel free to email me directly or drop by my office during my office hours.

The instructor cannot drop you because of lack of attendance. Students who do not withdraw from the course and stop attending may receive an "F" for the final course grade. Consult the

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student catalog to determine the deadline dates for withdrawal.

You should also check with the Financial Aid office to determine how this withdrawal might affect your funding. If the decision has been made to withdraw, you should

1. Go to FalconNet and login
2. Go to the Registration and Records Menu
3. Go to Class Registration and continue to the next page
4. Select the term you are registered for
5. Select the class you want to withdraw from and select the Drop button

Students with Disabilities

If you need academic accommodations, such as private testing, interpreters, note takers, etc., you must give the instructor a current letter from Student Disability Services (SDS) that verifies you need specific accommodations. We cannot give accommodations until the letter is provided from SDS. Please meet with the instructor as soon as possible to discuss the accommodations. Please do not give the instructor a copy of any medical information. For information about accommodations or services that may be available for students with a disability, please contact the Student Disability Services office.

Academic Support Center

The Academic Support Center promotes learning and helping students to achieve their potential by providing the resources needed to become successful and independent learners. Tutoring sections as a group or one-on-one, supplemental instruction, weekly learning sessions, and instructor assistance are available at the Centers. Centers are available on each campus. For locations and times, please go to <http://www.daytonastate.edu/asc/> for more information.

College Writing Center

The College Writing Center assists students, staff, and faculty to become better writers through face-to-face or virtual consultations (up to 45 minutes) and workshops. As the hub of writing at Daytona State, staff work with all writers at any stage of the writing process—so whether you're brainstorming ideas for a psychology paper you haven't started yet, or you've revised a letter several times and you want a fresh perspective, you can bring it into the CWC. We recommend scheduling an appointment because we tend to book up quickly; call (386.506.3297) or visit our website (www.daytonastate.edu/cwc) for more information.

Library Services

Daytona State Library Services offers you many different types of resources to support your research needs (or just your curiosity). These resources include everything from thousands of e-books to online databases containing millions of full-text newspaper, magazine and scholarly journal. Many of our resources can be accessed from the web 24/7. We also have a staff of very helpful librarians who can guide you to the best resources for whatever projects you are working on. E-mail the librarians, and/or call us at 386-506-3518, or check out our website and see what we can do for you!

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Other Support

Support is available for Falconmail, printing, web usage, Desire2Learn, and more. Students may call 386-506-4AID (4243) or e-mail (falconaid@falconmail.daytonastate.edu). Local access numbers for your area are:

DeLand/Deltona	(386) 785-2000 ext. 4243
Flagler/Palm Coast	(386) 246-4800 ext.4243
New Smyrna	(386) 427-3472 ext. 4243
Ormond/Daytona	(386) 506-4243

The FalconAid after hours of operation are:

Monday – Thursday	8:00 AM – 10:00 PM
Saturday	9:00 AM – 4:00 PM

Times may vary during holidays and special circumstances.

Daytona State College Academic Integrity Policy

DSC is committed to providing you with quality instruction, guidance, and opportunities for academic and career success by fostering academic excellence in a supportive and personalized learning environment. Maintaining high standards of academic honesty and integrity in higher education is a shared responsibility and an excellent foundation for assisting you in making honorable and ethical contributions to the profession for which you are preparing. In order to preserve academic excellence and integrity, the College expects you to know, understand, and comply with the Academic Integrity Policy, which prohibits academic dishonesty in any form, including, but not limited to, cheating and plagiarism. Grades conferred by instructors are intended to be, and must be, accurate and true reflections of the coursework actually produced and submitted by you.

All cases of suspected violations of the Student Code of Conduct, including academic dishonesty, are reported to the Judicial Affairs Office for resolution. Whenever students have questions about the Policy, it is their responsibility to seek help.

Academic dishonesty is defined as, but not limited to, receiving or giving unauthorized assistance on a quiz, test, exam, paper or project, or unauthorized use of materials; collaborating with another person(s) without authorization on a quiz, test, exam, paper or project; taking a quiz, test or exam for someone else, or allowing someone else to do the same for you.

Cheating: Defined as receiving or giving unauthor-ized assistance on a quiz, test, exam, paper or project or unauthor-ized use of materials to complete such; collaborating with another person(s) without authorization on a quiz, test, exam, paper or project; or taking a quiz, test or exam for some-one else or allowing someone else to do the same for you.

Plagiarism: Submitting work in which words, facts or ideas from another source are used without acknowledg-ing that the material is borrowed, whether from a published or unpub-lished source. For specific instruc-tions on how to document informa-tion from other sources, students should check with their instructors, academic departments or the Stu-dent Academic Support Center for

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reference.

Self-plagiarism: When students think of plagiarism, they often describe it as “borrowing” another writer’s ideas or words without giving proper credit. In fact, according to popular definitions, these students would be correct. However, recently the idea that students can plagiarize themselves has surfaced. When students turn in the same assignment for two different classes, they are self-plagiarizing. This rule also applies to sections of an assignment. Not only does “repurposing” assignments deny students the opportunity to learn, but also it is not fair according to the college’s standards. Turning in the same assignment for two separate classes means receiving credit TWICE for a single effort. Because of this, self-plagiarism is coined “double-dipping,” which leads to a devaluation of grades and therefore, a devaluation of the college. Daytona State College prohibits self-plagiarism.

Fabrication: Listing sources in a bibliography that one did not actually use in a written assignment, or presenting false, invented or fictitious data/information in a written assignment.

Other Academic Misconduct: Other academic misconduct includes, but is not limited to:

In a testing situation, conduct, such as, looking at a classmate’s test, talking to a classmate or leaving the classroom without the instructor’s or test proctor’s permission, using cell phones or text messages.

Obtaining by theft/purchase OR selling/giving part or all of a test.

Altering or attempting to alter academic records of the College which relate to grades; being an accessory to same.

Use of unauthorized materials or electronic devices during testing in any of the college Assessment Centers or College approved off-campus testing locations.

Violation of copyright laws and/or unapproved use of intellectual property.

My policy: If I find you sharing questions or answers with another student, you will receive a 0 for the course, and I will forward all documentation to the DSC administration. Students work hard to learn and pass these courses, and it’s not fair that I allow some students to ‘skate’ by cheating.

Evaluation

There are approximately six assignments, plus or minus one. This is the first semester I’ve taught this class at DSC, so I’m not sure how quickly we can move through the projects, so let’s be flexible. The projects are ‘hands-on,’ that is, you will actually perform tasks involved in a digital forensics examination, so they should all be relevant, and FUN.

The due dates will be announced on FL Online. You must upload your assignment to the Dropbox on Florida Online by the assigned time and date to receive credit.

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I DO NOT accept late assignments.

I need to be fair to ALL students, and thus my policy. If you haven't finished, turn in what you have, it's better than a 0.

Assignments will be weighted according to their breadth and difficulty.

Your final grade will be determined as follows:

Scale:

90-100:	A
80-89:	B
70-79:	C
60-69:	D
Below 60:	F

Tests

There are none!

Assignments Naming Scheme: IMPORTANT

Unless otherwise stated, assignments are individual assignments, not group work. Unless otherwise stated, all assignments are due no later than 11:55PM (Eastern) on the due date.

Every assignment must be named in the following format:

<first name>.<last name>.<assignment number>.txt

So if my name was John Smith, my first assignment would be named:

john.smith.1.txt
jane.jones.1.doc

I will inform you which document format to use for each assignment.

Failure to follow this rule will result in a 25% reduction in your grade (that is, you start off with a 75). I learned the hard way to require this format as the first time I taught online I had sort through 25 assignments named "assignment1.doc."

Important Dates

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Fall Semester 2013	Fall FF (16 week) Term	Fall FS (15 week) Term
Advance Registration for Summer 2013/Fall 2013 (currently enrolled students based on priority)	April 1	April 1
Fall Planning (Faculty Professional Development)	Aug. 14-16	Aug. 14-16
Last day to submit proof of Florida Residency	Aug. 19	Aug. 26
Fall Classes Begin	Aug. 19	Aug. 26
State Employee Registration	Aug. 19-23	Aug. 26-30
Last Day to Add/Drop	Aug. 23	Aug. 30
Labor Day Holiday	Sept. 2	Sept. 2
Last Day to Change "I" Grade awarded in Preceding Spring, Summer A, Summer B	Oct. 18	Oct. 18
Advising Week	Oct. 7- Oct. 11	Oct. 7- Oct. 11
Graduation Application Priority deadline	Nov. 8	Nov. 8
Advance Registration for Spring 2014 (currently enrolled students based on priority)	Nov. 4	Nov. 4
Last Day to Withdraw from classes with no grade penalty	Nov. 4	Nov. 4
Open Registration for Spring	Nov. 7	Nov. 7
Thanksgiving Holidays (Begins 5 p.m. Wed. 11/27)	Nov. 28-30	Nov. 28-30
Fall Classes End	Dec. 13	Dec. 13
Last Faculty Duty Day	Dec. 13	Dec. 13
Grades Due*	Dec. 15	Dec. 15
Holidays	Dec. 16- Jan. 1	Dec. 16- Jan. 1
Diplomas Mailed to Graduates	Jan. 10	Jan. 10

Classroom Policies

Disclaimer: Teaching policies and regulations for this course are not open for discussion or negotiation. This syllabus has been constructed to be as complete as possible but is by no means a binding document. I reserve the right to alter policies, procedures, and the syllabus as needed. Please utilize the website regularly as any changes to the syllabus will be posted there.

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Instructor Information

Dr. Philip Craiger, CISSP
Associate Professor
Department of Engineering Technology
Daytona State College

Professional Certifications

1. Certified Information System Security Professional (CISSP), 2004
2. SANS GIAC Certified Computer Forensic Analyst (GCFA) 2004
3. EnCase Certified Examiner, 2004, 2006
4. American Society of Crime Labs/Laboratory Accreditation Board (ASCLD/LAB) Certified Inspector, 2004
5. SANS GIAC Certified Security Essentials (GSEC) 2003
EC-Council Certified Ethical Hacker (CEH) 2004

Biography

I grew up in North Florida (Valparaiso, FL). I received my B.S. in Government from FSU in 1980 (I wanted to be a lawyer, changed my mine). I started and managed a heavy metal rock band for a few years afterward (see pictures below). I didn't like being poor so I decided to attend graduate school. I was graduated from USF with an M.S. and Ph.D. in Industrial Psychology (1992), with a minor in Artificial Intelligence from the Department of Computer Science.

After graduate school I worked as a research scientist for the Navy for a couple of years, and then was hired by the University of Nebraska at Omaha. I was an Associate Professor Computer Science, and taught courses in human-computer interaction, user interface design, computer and network security, computer forensics, object-oriented analysis and design, Java, as well as several advanced statistics courses. I helped create the Computer Science's M.S. in Computer Security, and brought in nearly \$3 million in grants to fund scholarships for students.

In 2004 I was offered a job to 'come home' to Florida. I accepted a dual appointment as an Assistant Professor in the Department of Engineering Technology at the University of Central Florida, and as the Assistant Director for Digital Evidence at the National Center for Forensic Science. In the ENT department I taught courses in computer and network security, computer forensics, operating and file system forensics, incident response, and biometrics. As Assistant Director at NCFS I'm responsible for conducting research in digital forensics, and was responsible for approximately \$5 million in grant funding (no I didn't get to keep all that). At UCF I helped create the Master's of Science in Digital Forensics, advised students in the Professional degree program, and taught several graduate courses.

I'm a SCUBA instructor, and certified to each courses from basic Scuba Diver through advanced technical diving (cave diving, trimix diving, etc.). In my time off I enjoy cave diving, open water diving, playing guitar, riding horses, and spending time with my family.

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Related Professional Publications/Conference Presentations

This is a very small selection of my publications. If you are interested in reading any of these I can try to get you a copy (may not always be possible).

1. P. Burke and P. Craiger, Forensic Analysis of Xbox Consoles. In P. Craiger and S. Sheno (Eds.), *Advances in Digital Forensics III*, Springer, New York, to appear.
2. C. Marberry and P. Craiger, Burn Options Affect Cryptographic One-way Hashes of CD-R Media. In P. Craiger and S. Sheno (Eds.), *Advances in Digital Forensics III*, Springer, New York, to appear.
3. P. Burke and P. Craiger. Xbox forensics. *Journal of Digital Forensics Practice*, New York, Taylor & Francis, to appear.
4. C. Marberry and P. Craiger. CD-R acquisition hashes affected by write options. *Journal of Digital Forensics Practice*, New York, Taylor & Francis, to appear.
5. P. Craiger and P. Burke, Mac OS X Forensics. In M. Olivier and S. Sheno (Eds.), *Advances in Digital Forensics II*, International Federation for Information Processing Working Group 11.9 (Digital Forensics), New York, to appear.
6. P. Burke and P. Craiger, Trace evidence of secure delete programs. In M. Olivier and S. Sheno (Eds.), *Advances in Digital Forensics II*. International Federation for Information Processing Working Group 11.9 (Digital Forensics), New York, to appear.
7. P. Craiger, Training and Education in Digital Forensics. In J. Barbara (Ed.), *Handbook of Digital and Multimedia Evidence*. Humana Press, to appear.
8. P. Craiger, Computer forensics methods and procedures. In H Bigdoli, (Ed), *Handbook of Information Security*, New York, John Wiley and Sons, 2, pp. 736-755, 2006.
9. P. Craiger, M. Pollitt and J. Swauger, Digital Evidence and law enforcement In H Bigdoli, (Ed), *Handbook of Information Security*, New York, John Wiley and Sons, 2, pp. 739-777, 2006.
10. P. Craiger, Recovering digital evidence from Linux systems, In S. Sheno and M. Pollitt (Eds), *Advances in Digital Forensics*, New York, International Federation of Information Processing Working Group 11.9 (Digital Forensics), pp. 233-243, 2006.
11. P. Craiger, J. Swauger and C. Marberry, Digital evidence obfuscation: recovery techniques. *The Proceedings of the International Society for Optical Engineering*, pp. 777-888, 2005.
12. P. Craiger, Portable forensics with Linux Annual Meeting of the Nebraska Academy of Sciences, Lincoln, NE, 2004.
13. P. Craiger, et al, An applied course in network forensics *Proceedings of the Workshop for Dependable and Secure Systems University of Idaho, Moscow, Idaho, Sept 23-35, 2002*.
14. P. Craiger and J. Swauger, Digital forensic software tool validation. In P Kanellis (Ed) *Digital Crime and Forensic Science in Cyberspace Idea Group*, in press.
15. P. Craiger and P. Burke. Mac Forensics: Mac OS X and the HFS+ File System. Second Annual Conference of the International Federation for Information Processing Working Group 11.9 (Digital Forensics). Feb. 2, 2006, Orlando, FL.

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16. P. Burke and P. Craiger Trace evidence of secure delete programs. Second Annual Conference of the International Federation for Information Processing Working Group 11.9 (Digital Forensics). Feb. 2, 2006, Orlando, FL.
17. R. Eaglin and P. Craiger, Data Sharing and the Digital Evidence Markup Language. 1st Annual GJXDM Users Conference, Atlanta, GA. (not peer reviewed), 2005.
18. P. Craiger, Recovering digital evidence from Linux systems, First Annual Conference of the International Association of Information Professionals Working Group 11.9 (Digital Forensics), Orlando, FL, February, 2005.
19. P. Craiger, Digital evidence obfuscation: Recovery techniques Meeting of the International Society for Optical Engineering Orlando, FL, April, 2005.
20. P. Craiger, Portable Linux Forensics, Presentation accepted for the 26th Annual Department of Energy Conference on Computer Security Training Kansas City MO, May, 2004.
21. P. Craiger and S. Webb, Forensics with Linux Presentation for the 8th Annual INFOTEC Conference Omaha, NE, April, 2004.
22. P. Craiger, Network forensics investigative techniques, 25th Annual Department of Energy Conference on Computer Security Training Baltimore MD, April, 2003.
23. S. Webb and P. Craiger, Defensive Battle Stations In Network-Centric Warfare: Rapid-response Computer and Intrusion Forensics Proceedings of the 6th Annual Systems Engineering Conference, San Diego, CA, October, 2003.
24. K. Gubbels and P. Craiger, Honeypots for Defense-in-Depth 25th Annual Department of Energy Conference on Computer Security Training Baltimore MD, April, 2003.
25. P. Craiger, Computer and network forensics Presentation at the 7th Annual INFOTEC Conference Omaha, NE, April, 2003.
26. K. Gubbels and P. Craiger, Defense-in-depth with honeypots Presentation at the 7th Annual INFOTEC Conference Omaha, NE, April, 2003.
27. P. Craiger, An applied course in network forensics, Paper presented at the Workshop for Dependable and Secure Systems University of Idaho, Moscow, Idaho, Sept 23-35, September, 2002.
28. P. Craiger, Ubiquitous Security? Presentation at the 6th Annual INFOTEC Conference, April, 2002.
29. S. Whalen and P. Craiger, Attacking and Defending Wireless Networks, Presentation at the 6th Annual INFOTEC Conference, April, 2002.