Bossier Parish Community College
Master Syllabus

Course Prefix and Number: CTEC 280   **Credit Hours:** 3-3-0

Course Title: Computer Forensics

Course Prerequisites: CTEC 279

Textbook(s): Nelson/Phillips/Steuart. MindTap Security Lab, 1 term (6 months) Instant Access for Nelson/Phillips/Steuart's Guide to Computer Forensics and Investigations via Live Virtual Machines, 6th edition. Cengage. ISBN: 9781337568982.

Optional Textbook/Subscription Offers from Cengage:

Cengage Unlimited, 1 term (4 month) Printed Access Card, 1st edition,
PAC: 9780357700037 or IAC: 9780357700006
Cengage Unlimited, Multi-term (12 month) Printed Access Card, 1st edition,
PAC: 978035770044 or IAC: 9780357700013
Cengage Unlimited, Multi-term (24 month) Printed Access Card, 1st edition,
PAC: 9780357700051 or IAC: 9780357700020

Software: This course will use MindTap.

Course Description: This course provides an overview of computer forensics and investigation tools and techniques. Operating system architectures and disk structures will be discussed, as well as what computer forensic hardware and software tools are available. Other topics include the importance of digital evidence controls, how to process crime and incident scenes, the details of data acquisition, computer forensic analysis, email investigations, image file recovery, investigative report writing, and expert witness requirements. The course provides a range of laboratory and hands on assignments that teach about theory as well as the practical application of computer forensic investigation. This course also is a required course for the NSA/DHS KU Alignment for the CAE-CDE Designation.

Certification: This course helps prepare students for the Access Data Certified Examiner Exam.

Learning Outcomes:
At the end of this course, the student will:
   A. determine the necessity for forensic preparedness procedures and recognize the appropriate moments for instigating an investigation and involving law enforcement;
   B. recognize typical forms of computer crime and abuse and the relevant evidence;
   C. assist in determining where and how evidence may be stored in computers, and how this evidence may be extracted without contamination;
   D. participate in the selection of appropriate tools for forensic investigation; and
   E. define current terminology within computer forensics.

To achieve the learning outcomes, the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)

1. prepare for computer investigations (A,D);
2. learn necessary forensic procedures (A,E);
3. identify various types of computer crime (B);
4. dentify relevant evidence in computer crimes (B,D);
5. identify hidden evidence stored in a computer (C,D);
6. extract evidence hidden in a computer (C,D);
7. recognize various tools available for forensic investigations and how validation of tools is accomplished (D);
8. identify validation methods to include hashing (D);
9. select appropriate tools required for investigation (C,D);
10. recognize basic legal elements including: fraud, waste and abuse and investigate authorities (A, B);
11. recognize basic countermeasures including: assessments (e.g., surveys, inspections) and cover and deception (D,C);
12. recognize basic legal elements including: criminal prosecution and evidence collection and preservation (B,C);
13. recognize and apply NSTISS policies and procedures key management including: access, control and storage of COMSEC material, destruction procedures for COMSEC material, identify and inventory COMSEC material, key management protocols (bundling, electronic key, over-the-air rekeying) and report COMSEC incidents (C);
14. identify characteristics of information systems that need re-certification and how to initiate the recertification effort (D);
15. explain the importance of the certification and accreditation (C&A) effort leading to accreditation (D);
16. explain the importance of evidence collection/preservation policies (B);
17. recognize the importance of the National Information Assurance (IA) Certification & Accreditation (C&A) Policy (D,E);
18. identify auditable events (C,D);
19. recognize investigative authorities and explain the importance of investigative authorities (A);
20. explain the importance and role of non-repudiation (D);
21. explain the importance of facilities planning (D,E); and recognize TEMPEST requirements and discuss threats from TEMPEST failures (D,E).

Course Requirements:
1. This course may be offered as a face-to-face or an online course. The certification exam(s) for this course is required to be taken on campus or an approved proctored environment.
2. A student must successfully complete the course with an average of 70% or above on the combined learning outcomes.

3. Each student is expected to attend classes regularly; excessive unexcused absences constitute grounds for suspension (refer to the student handbook for attendance policies).

Course Grading Scale:
A = 90 - 100
B = 80 - 89
C = 70 - 79
D = 60 - 69
F =   0 - 59

Attendance Policy: The college attendance policy is available at
http://catalog.bpcc.edu/content.php?catoid=5&navoid=369

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams, and/or clinical fees.

NICE Framework Categories

Securely Provision (SP)   Operate and Maintain (OM)   Oversee and Govern (OV)
Protect and Defend (PR)   Analyze (AN)   Collect and Operate (CO)
Investigate (IN)

Specializations
- Data Management Systems Security
- Data Security Analysis
- Digital Forensics
- Network Security Engineering
- Network Security Administration
- Secure Cloud Computing
- Secure Mobile Technology
- Secure Telecommunications
- Security Incident Analysis and Response
- System Security Administration
- Cyber Investigations

CAE Knowledge Unit Mapping:
- Cloud Computing (CCO)
- Cybersecurity Ethics (CSE)
- Digital Forensics (DFS)
- Host Forensics (HOF)

- Media Forensics (MEF)
- Network Forensics (NWF)

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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