

# Metropolitan State University of Denver Regular Course Syllabus

## CSS - 3752 - Computer Forensics

Fall 2016

Status	completed
Tracking:	LAS1617-30
Department	Mathematical and Computer Sciences, Department of
Prefix:	CSS
Course Number:	3752
Course Type:	Computer Science Studies
Course Title:	Computer Forensics
Transcript Course Title:	Computer Forensics
Equivalent/ Crosslisted?	
List all equivalent courses:	
List all crosslisted courses:	
Check All That Apply:	Elective
Credit Hours:	3
Schedule Type:	Lecture
Grade Mode:	Letter
Lecture:	45
Lab:	
Internship:	
Practicum:	
Other:	
Additional Student Work Hours per course:	90
Variable topics umbrella course:	No
If yes, number of credits/ repeats allowed	
Specified repeatable course:	No
If yes, number of credits/ repeats allowed	
Prerequisite(s):	CSS 2751 and CSS 2752 or permission of instructor
Corequisite(s):	
Prerequisite(s) and/or Corequisite(s):	
Banner Prerequisite(s):	CSS 2751 and CSS 2752
Banner Corequisite(s):	
Banner Prerequisite(s) and/or Corequisite(s):	
Level	
Class	
Program/Major	
Student attribute	

Catalog Course Description:	Once a cybersecurity incident has occurred, it must be investigated and reported so that an organization can learn from the incident. This course discusses the various types of evidence, how to analyze that evidence, and when to involve law enforcement. This course includes low-level device analysis including filesystems, flash memory, and mobile devices. The concepts of chain of custody and the protection of evidence while performing effective forensics are covered.
Required Reading and Other Materials will be equivalent to:	Eoghan Casey (2009), Handbook of Digital Forensics and Investigation 1st Edition, ISBN-13: 978-0123742674
Specific, Measurable Student Behavioral Learning Objectives:	<ol style="list-style-type: none"> <li>1. Collect data relevant to a cybersecurity incident.</li> <li>2. Non-destructively analyze those data.</li> <li>3. Set up a disk and flash drive analysis system with both hardware and software.</li> <li>4. Compose post-incident reports for both internal and external use.</li> <li>5. Assess when an incident requires law enforcement participation.</li> <li>6. Evaluate post-incident restoration and business continuity plans.</li> <li>7. Judge the extent to which an incident permeates an organization.</li> </ol>
Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/ Internship	<ol style="list-style-type: none"> <li>I. Electronic discovery. <ol style="list-style-type: none"> <li>A. Email.</li> <li>B. Web browser caches and history.</li> </ol> </li> <li>II. Disk images. <ol style="list-style-type: none"> <li>A. Retrieving.</li> <li>B. Analyzing.</li> <li>C. Storing.</li> <li>D. Cleanroom techniques.</li> </ol> </li> <li>III. Filesystems. <ol style="list-style-type: none"> <li>A. Layout.</li> <li>B. Directory structure.</li> <li>C. File structure.</li> <li>D. Slack space.</li> </ol> </li> <li>IV. Flash memory. <ol style="list-style-type: none"> <li>A. Characteristics.</li> <li>B. Examining.</li> </ol> </li> <li>V. Document investigations. <ol style="list-style-type: none"> <li>A. Capturing history.</li> <li>B. Determining authorship.</li> <li>C. Revisions.</li> </ol> </li> <li>VI. Mobile device forensics.</li> <li>VII. Business continuity. <ol style="list-style-type: none"> <li>A. Restoration and recovery.</li> </ol> </li> <li>VIII. Reporting.. <ol style="list-style-type: none"> <li>A. Security Information and Event Management (SIEM).</li> </ol> </li> <li>IX. Interacting with law enforcement. <ol style="list-style-type: none"> <li>A. Chain of custody.</li> <li>B. Local versus national.</li> <li>C. Fraud.</li> </ol> </li> </ol>
Evaluation of Student Performance	Required: exams and papers. Optional: quizzes. participation, classwork, homework, projects.
Learning Objectives	
Distribution of Credit Hours	3 (3+0)

Steps	Decision	Date	
Originator			
Steve Beaty	approve	09/12/2016 10:09AM	
Department Curriculum Committee Chair			
Clark Dollard	approve	09/12/2016 03:03PM	
Department Chair			
Lindsay Packer	approve	09/12/2016 04:05PM	
Dean's Office Tracking Assignment			
Cynthia Philbrook	approve	09/14/2016 08:44AM	
Substantive College Level			
Linda Lang-Peralta	approve	12/07/2016 04:45PM	
Mona Mocanasu	approve	12/05/2016 10:16AM	
Steve Beaty	approve	10/07/2016 10:42AM	
Faculty Senate President			
Matthew Makley	None		
Erica Buckland	force-approve	01/05/2017 10:59AM	
AVP Academic and Student Affairs			
Bernice Harris	approve	01/05/2017 11:22AM	