

## **REVISION OF THE COMPUTER FORENSICS PROGRAM**

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## **ABSTRACT**

The computer forensics field is rapidly evolving as computer forensics professionals attempt to cope with new technologies and constantly changing threats to computer security. This revision, which has been discussed with and endorsed by the Computer Forensics Advisory Board and the Program's faculty who are working professionals, will ensure that graduates have the technical skills necessary to be successful in this vital and growing field. The three recommended revisions to the Computer Forensics Curriculum will give the student more in-depth computer instruction earlier in the curriculum, thus enabling them to be successful in later Computer Forensics courses. These changes will also help ensure that the Curriculum remains relevant and ensures that Computer Forensics students receive the most current and comprehensive instruction to ensure their success in the program and upon graduation.

## **OVERVIEW OF PROPOSED CHANGES:**

- 1) Remove CIS 104- PC Operating Systems: Windows as a required course and replace with CIS 105- Windows Professional Operating System. Since CIS 105 is a four credit course and CIS 104 was three credits, this will add an additional one credit required for graduation.
- 2) Change the sequence of courses so that Network Forensics (currently CF 203) precedes Intrusion Detection and Prevention (currently CF 202). Modify course numbers to reflect the new sequence. Change the title of Network Forensics (currently CF 203) to Networking and Forensics.
- 3) Replace Justice/CIS elective with CIS 150 which will also add one additional credit to the minimum required for graduation.

The three changes above together add two credits to the minimum required for graduation and raise the total from the current 60 credits to 62 credits.

## **RATIONALE:**

### **REPLACE CIS 104 WITH CIS 105**

The Computer Forensics Curriculum currently requires that all students take CIS 104, *PC Operating Systems: Windows*. The Computer Technologies Department has discontinued that course. Furthermore, prior to the decision to eliminate CIS 104, the Computer Forensics Advisory Board recommended that CIS 104 be replaced with CIS 105- *Windows Professional Operating System*. In CIS 105 students learn to configure the user environment, configure protocols, connect to a network, and monitor and troubleshoot the system. Mastery of these tasks is essential for them to complete more sophisticated tasks later in the program related to computer security. While CIS 104 requires no prerequisite courses, CIS 105 has a prerequisite of CIS 103, which is already required in the Computer Forensics curriculum. This proposed change would increase the total number of credits for graduation by one. CIS 104 would be

deleted as a prerequisite for the current CF202 (Intrusion Detection and Prevention) and would be replaced by CIS 105. CIS 105 would replace CIS 104 in the same place in the recommended course sequence.

### **CHANGE SEQUENCE OF COURSES SO THAT *NETWORK FORENSICS* PRECEDES *INTRUSION DETECTION AND PREVENTION*.**

It is the consensus of the faculty and the Advisory Board that the current CF 202, *Intrusion Detection and Prevention* should be taken after the current CF 203 *Network Forensics*. The concepts of computer networking should be firmly established before the issues of the detection and prevention of intrusions can be presented and properly understood. Many students who have taken *Intrusion Detection and Prevention* before *Network Forensics* have had difficulty understanding some of the necessary concepts in *Intrusion Detection and Prevention* that would have been covered in *Network Forensics*. This situation causes the instructor to use instructional time to cover, what should be, prerequisite work. This proposed change would help ensure that the subject matter is placed in a more logical sequence.

In order to accommodate these changes it will be necessary to renumber CF 204 (Computer Forensics Seminar and Practicum) as CF 240. CF 202—Intrusion Detection and Prevention will become CF 220, thus ‘jumping over’ CF 203 which will retain the same number. The numbers 220 and 240 were chosen because they are similar to 202 and 204.

It was also recommended that the title of CF 203 be changed from *Network Forensics* to *Networking and Forensics*. This title change would more accurately describe the subject matter addressed in the course. The only change to the current course description would be the deletion of any references to CF202 in the body of the description of the current Network Forensics since the actual course content is unchanged.

### **REPLACE JUSTICE/CIS ELECTIVE WITH CIS 150 AND MOVE IT EARLIER IN THE SEQUENCE OF COURSES**

Under the general education portion of the current Computer Forensics Curriculum, all students are required to take a “Justice or CIS elective.” Instructors who have taught the 200 level courses of Computer Forensics have found that some students do not have the proper foundation to be successful in these higher level courses. Upon examination of the current CIS offerings, they recommended that CIS150, *Data Communications*, be added to the curriculum as a required course and be a prerequisite to the proposed CF 220 (currently 202) *Intrusion Detection and Prevention*. By taking CIS 150 prior to *Intrusion Detection and Prevention*, the topics covered in this course (network configurations, network design, microcomputer architecture, internet and network management control and security) will give the Computer Forensics student a better foundation for the higher level Computer Forensics courses so they can then better understand the skills involved in recovering information and/or evidence from computer networks and networking equipment in a secure manner.

The Advisory Board concurred with the opinions of the faculty and endorsed the proposal. The proposal is that the “Justice/CIS elective” of three credits be eliminated and CIS 150 (four

credits) be added to the Computer Forensics core courses. This proposed change would add one additional credit required for graduation.

### EFFECT OF THE CHANGES

The minimum number of credits necessary for graduation will increase from 60-62. Students will have a better understanding of technical issues needed to be successful in the field of computer forensics.

### Computer Forensics

Course Number and Name	Prerequisites and Corequisites	Credits	Gen Ed Req.
<b>FIRST SEMESTER</b>			
ENGL 101-English Composition I		3	Engl 101
JUS 101-Survey of Justice		3	
CIS 103-PC Applications		3	Tech Comp
Math 118-Intermediate Algebra (or higher)		3	Math
Social Science Elective		3	Social Science
<b>SECOND SEMESTER</b>			
ENGL 102-English Composition II		3	Engl 102 and Info Lit
CIS 105-Windows Professional Operating System	CIS 103	4	
JUS 221-Criminal Investigation	JUS 101	3	
CF 101-Introduction to Computer Forensics	JUS 101, CIS 103	3	
JUS 241-Criminal Law	JUS 101	3	
<b>THIRD SEMESTER</b>			
JUS 261-Criminal Evidence and Procedure	JUS 101	3	
CF 201-Advanced Computer Forensics	CF 101, JUS 221, JUS 241, JUS 261	3	
CF 203-Networking and Forensics	CF 201	3	
CIS 150-Data Communications	CIS 104 or 105	4	
Social Science Elective		3	
<b>FOURTH SEMESTER</b>			
Natural Science Elective		3/4	Natural Science
Humanities Elective		3	Humanities
CF 220—Intrusion Detection and Prevention	CF 203, CIS 150	3	
CF 240-Computer Forensics Seminar and Practicum	CF 220, ENGL 101	3	
General Elective		3	
MINIMUM CREDITS NEEDED TO GRADUATE		62	

### GENERAL EDUCATION REQUIREMENTS

All General Education requirements are met through required courses (as indicated above) except for the **Writing Intensive** requirement, the **Interpretive Studies** requirement and the **American/Global Diversity** requirement. Therefore, in order to graduate, students in this program must choose one course that is designated Writing Intensive, one course that is designated Interpretive Studies and one course that is designated American/Global Diversity. The same course may be used to fulfill more than one of these requirements. A list of courses that fulfill these requirements and a more detailed explanation of the College's general education requirements appears elsewhere in this catalog and on [www.ccp.edu](http://www.ccp.edu)

For More Information Contact:

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