Computer Forensics

Graduate Certificate in Computer Forensics

CERTIFICATE CODE - CG08

The Lane Department of Computer Science and Electrical Engineering (LDCSEE) offers a Graduate Certificate in Computer Forensics (CF). By providing systematic graduate courses in this field, our graduates and others should be better prepared to assist business, industry, government, and academia in attaining a new level of protection from cyber-criminals.

The graduate certificate program consists of fifteen credit hours of required courses. Admission to the graduate certificate program in Computer Forensics requires admission to the M.S. Computer Science or M.S. Electrical Engineering (with Computer Engineering major). One wishing to complete only the Certificate must still be admitted to the M.S.C.S. or M.S.E.E. programs.

The purpose of the certificate program is to:

1. Provide further education to computer professionals with technical undergraduate degrees to enable them to track and protect institutional computer and cyber crime. This knowledge in corporate settings should lead to better protection of company computer assets, company intellectual property, and company data and financial assets. These professionals should be able to support law enforcement in detection and prosecution of cyber-crime when needed.

2. Provide further education for those technical individuals who work in law-enforcement. It is expected that these would be highly technical people with bachelor's degrees in either computer science, computer engineering, or software engineering.

Many (if not most) of the students expected will be full time and pursuing a Masters of Science degrees in Computer Science or Computer Engineering. Other students may come from industry and law enforcement. These students will achieve the Certificate as another resume item that will improve employability while supplying a demand for computer people with such backgrounds. Some students may choose to pursue the Certificate with no intent of completing a Masters degree but will have achieved significant competence in this field.

The Certificate requires fifteen credit hours through required core curriculum courses. In addition to the fifteen credit hours upon course completion, the student will be required to complete a capstone project. The following are the fifteen credits hours:

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>CPE 435</td>
<td>Computer Incident Response</td>
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<tr>
<td>CPE 536</td>
<td>Computer Data Forensics</td>
</tr>
<tr>
<td>CPE 538</td>
<td>Intro Computer Security Management</td>
</tr>
<tr>
<td>CS 539</td>
<td>Computer Forensics and the Law</td>
</tr>
<tr>
<td>CS 568</td>
<td>Computer Network Forensics</td>
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Total Hours: 15

These five courses cover the major areas of study. The first is an overview of the entire area; two will be taught with an emphasis throughout on vulnerabilities and counter-measures. One course emphasizes management practices and oversight required to maintain the best defense against attacks in organizations and how to respond to them. The final course deals with the law and cases governing the area of computer crime, its detection and prosecution, keeping in mind the constraints placed on security by the rights of citizens.

Certificate Learning Outcomes

COMPUTER FORENSICS

Upon completion of the certificate students should be able to:

- Provide further education to computer professionals with technical undergraduate degrees to enable them to track and protect institutional computer and cyber crime. This knowledge in corporate settings should lead to better protection of company computer assets, company intellectual property, and company data and financial assets. These professionals should be able to support law enforcement in detection and prosecution of cyber-crime when needed.

- Provide further education for those technical individuals who work in law-enforcement. It is expected that these would be highly technical people with bachelor's degrees in either computer science, computer engineering, or software engineering.