Tactical Computer Operations (TCO) is a discipline involving the offensive side of computer and forensics operations. Expertise in this field includes the ability to understand and work at the operating system kernel level, understand and work with shared libraries and application program interfaces, manipulation of network traffic at the frame level, network stack redirection, anti-forensic obfuscation, penetration engineering, and reverse engineering. Mobile devices have also opened up a plethora of offensive opportunities that needs to be understood and mastered in order to better protect and serve.

The graduate certificate may only be pursued on a part-time basis.

Admissions & Policies

Admissions
Students applying to this certificate must hold a bachelor’s degree in either computer science or computer engineering. Prospective students without these specific degrees will need to have a technical bachelor’s degree and show academic competence in the areas of: C (C++, C#, Objective C), Assembler, discrete mathematics, and computer networking. An undergraduate grade point average (GPA) of 3.0 or better (4.0 scale) is required. The Graduate Record Exam (GRE) is not required.

Policies
Course Prerequisites
Students must meet prerequisites for courses by either taking the appropriate undergraduate courses or through instructor permission.

Requirements

Certificate Requirements
Total credits: 15

Certificate Courses
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 571</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECE 511</td>
<td>Microprocessors</td>
<td>3</td>
</tr>
<tr>
<td>CFRS 761</td>
<td>Malware Reverse Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>
Total Credits 9

Electives
Select two courses from the following: 6