CYBER SECURITY MINOR

The minor is intended for students studying computer engineering, computer science, software engineering, or management information systems with the goal of enabling them to work in cyber security. The minor consists of a series of lab based courses that are designed to provide students with both the technical background and the hands-on experiences along with the theoretical background to allow them to compete to jobs in cyber security.

The minor requires 15 credits and at least 9 credits can not be used to meet any other department, college, or university requirement. Below is the list of courses used in the minor.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPR E231 Cyber Security Concepts and Tools</td>
<td>9</td>
</tr>
<tr>
<td>One of the following:</td>
<td>3-4</td>
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<tr>
<td>CPR E308 Operating Systems: Principles and Practice</td>
<td></td>
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<tr>
<td>COM S252 Linux Operating System Essentials</td>
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<tr>
<td>COM S352 Introduction to Operating Systems</td>
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<tr>
<td>CPR E431 Basics of Information System Security</td>
<td></td>
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<tr>
<td>Capstone</td>
<td>3</td>
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<tr>
<td>INFAS 332 Cyber Defense Competition Must take 3 times</td>
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<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>S E412 Formal Methods in Software Engineering</td>
<td></td>
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<tr>
<td>Total Credits</td>
<td>18-19</td>
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</tbody>
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Learning Outcomes

After earning the minor in cyber security students will

1. demonstrate the ability to apply knowledge of cyber security concepts, tools and technologies to computer systems.
2. understand cyber security risks, threats and countermeasures and apply this understanding to develop cyber defense strategies.
3. demonstrate the ability to design cyber security systems to meet organizational needs within realistic constraints such as economic, environmental, social, and ethical expectations.
4. demonstrate the ability to function on teams.

Objectives

The minor in cyber security is designed to prepare students with the technical skills for entry into cybersecurity positions in industry or government agencies.

A few years after graduation, students completing the cyber security minor should be:

1. Contributing to their communities and society in the area of cyber security technology and applications and demonstrate an understanding of contemporary security issues, both technological and societal.
2. Advancing in their careers through application of their knowledge of cyber security
3. Working effectively as team members and demonstrating ethics and responsible behavior
4. Applying cyber security methods and concepts to the general area of their BS degree
5. Continuing their professional development through life-long learning