Cyber Defense Certificate - 30 credits  
Program Area: Computer Information Systems (Fall 2021)

***REMEMBER TO REGISTER EARLY***

Program Description
The Cyber Defense certificate is designed to prepare participants with foundation-level skills for a job in computer networking and security. The curriculum in this program will help prepare students for the following certifications: CompTIA Net+, CompTIA Security+, Cisco RSTECH, and EC-Council Certified Ethical Hacker (CEH).

The 30-credit Cyber Defense Certificate transfers seamlessly into LSC’s Network Administration and Security Diploma (58 credits), and AAS degree (72 credits).

Program Outcomes
- Describe the OSI Reference Model, layered communications principles and routing/switching principles with associated devices, as well as use these concepts effectively in verbal and written communication
- Manage Cisco router hardware and the Cisco Internet Operating System (IOS), including planning, installation, configuration, management, upgrading and troubleshooting of routers and switches
- Analyze organizational network needs, as well as design and implement networks that include hardware/software configuration and management and security (access control)
- Determine the factors involved in developing a secure information security strategy
- Describe and identify common security threats and attacks and describe how to safeguard against them
- Apply a common ethical hacking methodology to carry out a penetration test and describe how to implement countermeasures for these types of attacks

Required Courses

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CIS 1402</td>
<td>Foundations of CIS</td>
<td>3</td>
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<tr>
<td>CIS 1946</td>
<td>CISCO Networking I</td>
<td>3</td>
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<tr>
<td>CIS 1745</td>
<td>Unix System Administration</td>
<td>3</td>
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<tr>
<td>CIS 1810*</td>
<td>Security Fundamentals</td>
<td>3</td>
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<tr>
<td>CIS 1947*</td>
<td>CISCO Networking II</td>
<td>3</td>
</tr>
<tr>
<td>CIS 1952*</td>
<td>Windows Server Administration</td>
<td>3</td>
</tr>
<tr>
<td>CIS 2811*</td>
<td>Intrusion Detection/Prevention Systems Fundamentals</td>
<td>3</td>
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<tr>
<td>CIS 2812*</td>
<td>Network Security</td>
<td>3</td>
</tr>
<tr>
<td>CIS 2813*</td>
<td>Forensics and Incident Response</td>
<td>3</td>
</tr>
<tr>
<td>CIS 2814*</td>
<td>Ethical Hacking and Systems Defense</td>
<td>3</td>
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</table>

Total Credits 30
*Requires a prerequisite or a concurrent course

Pre-program Requirements
Successful entry into this program requires a specific level of skill in the areas of English/reading and mathematics.

English/Reading:
- Eligible for ENGL 1106 - College Composition I, or
- Completion of ENGL/READ 0950/0955 (or equivalent or higher). ENGL/READ 0950/0955 may be taken concurrently with Semester I coursework.

Mathematics:
- Eligible for MATH 0970 - Intermediate Algebra, or
- Completion of MATH 0950/0955 (or equivalent or higher). MATH 0950/0955 may be taken concurrently with Semester I coursework.

There are other ways to qualify. Visit Course Placement (lsc.edu/course-placement) to find out more.
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For interpretation of test results and selection of appropriate coursework; or general information about the program, admissions, financial aid, and getting started at LSC, contact the professional advising team (advising@lsc.edu) or 218-733-7601.

For more information about the Cyber Defense Certificate including course descriptions, course prerequisites, the program report, and potential career opportunities, see the program website (https://degrees.lsc.edu/cyber-defense/)

or

Contact Faculty Advisors, Tom Gustafson (thomas.gustafson@lsc.edu) at 218-733-7773 or Matthew McCullough (matthew.mcculough@lsc.edu) at 218-733-6943.

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All courses in diploma and/or certificate programs are acceptable for credit toward Lake Superior College degree programs as indicated on individual program planners. This is not a contract; Lake Superior College reserves the right to change the planner as necessary. This document is available in alternative formats upon request, by contacting Disability Services or (218) 733-7650 or MRS/TTY (800) 627-3529.