**Network Administration and Security – AAS**

**Description:**

This program provides the skills to support and maintain Information Technology (IT) systems including overall computer knowledge, networking skills, application software, and IT security. Students will learn networking skills that include switching, routing, server operating systems, directory services and security. Students will learn to perform security risk assessments, implement security measures and perform penetration testing. Additional program topics include computer hardware and operating systems as well as software selection, customization and support. Many classes are built around specific industry certification.

**Program Outcomes:**

1. Administer operating systems.
2. Configure routing and switching.
3. Configure infrastructure server roles.
4. Demonstrate the need for policy.
5. Evaluate network security methods.
6. Utilize IP communications technologies.
7. Develop redundancy and availability strategies.
8. Design computer networks.
9. Generate electronic documents.
10. Demonstrate ethical skills in relation to information technology.
11. Troubleshoot information technologies.
12. Communicate effectively and efficiently with clients, users and peers.
13. Perform vulnerability scanning and network penetration and infiltration testing.
14. Implement security measures to minimize attack surface

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| **Current Course** | **Title** |  | **Change Course** | **Title** |
| ENGL1101 | College Writing 1 |  | ENGL1101 | College Writing |
| CPTR1178 | Robotics |  | COMM1102 | Intro to Public Speaking |
| CSCI1110 | Informatics |  | CSCI1110 | Informatics |
| CPTR1106 | Microcomputer Database |  | CPTR1106 | Microcomputer Database |
| CPTR1122 | Microcomputer Maintenance |  | CPTR1122 | Microcomputer Maintenance |
|  |  |  |  |  |
| COMM1120 | Intro to Public Speaking |  | MnTC Elective |  |
| CPTR2272 | Network Operating System |  | CPTR2272 | Network Operating System |
| CPTR2224 | Linux 1 |  | MnTC Elective |  |
| CPTR1001 | Intro to Programming and Scripting |  | CPTR1001 | Intro to Programming and Scripting |
| CPTR1108 | Cisco 1 |  | CPTR1108 | Cisco 1 |
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| MnTC Elective |  |  |  |  |
| MnTC Elective |  |  |  |  |
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| CPTR1118 | Cisco 2 |  | CPTR1118 | Cisco 2 |
| CPTR2236 | Network Security |  | CPTR2236 | Network Security |
| CSEC2204 | Managing Directory Services |  | CSEC2204 | Managing Directory Services |
| CSEC2212 | Web Security |  | CPTR2224 | Linux 1 |
| HUM2236 | Technology in the Humanities |  | HUM2236 | Technology in the Humanities |
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| CSEC2210 | Security Breaches & Countermeasures |  | CSEC2210 | Security Breaches & Countermeasures |
| CVNP2216 | VoIP |  | Tech Elective |  |
| CPTR2294 | Internship |  | Tech Elective |  |
| CSEC2228 | Network Defense |  | CSEC2228 | Network Defense |
| CPTR2245 | Enterprise Network Technologies |  | CPTR2245 | Enterprise Network Technologies |

Should Web Engineering 1 replace one of the server administration classes?

Current Technical Electives:

CPTR1178 - Robotics, CPTR2294 - Internship, CPTR2296 - Topics in Computers, CSCI1121 - Computer Science I, CSCI1122 - Computer Science II, CVNP2212 - Voice Over IP and IP Telephony