CITS F201  Microcomputer Operating Systems Support
1-3 Credits
Offered As Demand Warrants
Comprehensive exploration of a current microcomputer operating system: use, configuring, installing and administering. Topics include end-user and technical support.
Recommended: CIOS F150 or equivalent skills.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F202  Microcomputer Hardware Support
1-3 Credits
Offered As Demand Warrants
Fundamental hardware and software (associated with hardware) configuration and troubleshooting. Includes installing, removing and configuring computer hardware components; installing and configuring software applications and operating systems to support hardware; diagnosing hardware and software problems; and developing troubleshooting and configuration procedures.
Recommended: CITS F201 or equivalent skills.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F203  Information Technology Support Fundamentals
4 Credits
Offered As Demand Warrants
Overview of skills and knowledge required by professional computer support technicians to support and troubleshoot computer operating systems and computer hardware, including the purpose and function of the internal components of a computer; how to assemble a computer system, install an operating system and the basic skills and knowledge required to connect to and share resources in a network environment. Course covers objectives defined for CompTIA A+ certification.
Recommended: CIOS F150 or equivalent skills.
Lecture + Lab + Other: 4 + 0 + 0

CITS F204  Introduction to Computer Networks
3 Credits
Offered As Demand Warrants
This foundational course introduces several ways that computers interact and the tools used in analysis and troubleshooting. Examples include local and wide area networks, also known as LANs and WANs; the "internet of things"; and cloud computing. Networking careers may also be explored. CITS F203 may be taken concurrently.
Lecture + Lab + Other: 3 + 0 + 0

CITS F205  Introduction to Coding and Programming
1-3 Credits
Offered As Demand Warrants
Computer programming focused on programming concepts with programming tools.
Prerequisites: Math placement at the 100-level.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F212  Server Operating Systems
3 Credits
Offered As Demand Warrants
Fundamentals in installing, configuring and maintaining server operating systems. Learn how to configure and administer network accounts, resources, and common services deployed on server operating systems. Course covers foundation server operating system knowledge required for Microsoft Certified Solutions Associate (MCSA) certification exams related to server technologies.
Prerequisite: CITS F204 (may be taken concurrently) or equivalent skills.
Lecture + Lab + Other: 3 + 0 + 0

CITS F219  Microcomputer Operating Systems: Topics
1-4 Credits
Offered As Demand Warrants
In-depth and comprehensive technical class covering operating system skills and concepts. Course may be repeated for credit.
Recommended: CITS F203 or equivalent skills.
Lecture + Lab + Other: 1-4 + 0 + 0

CITS F220  Implementing Internet Tools and Technologies
3 Credits
Offered As Demand Warrants
Exploration of advanced Internet topics. Building a presence on the Internet -- evaluate web hosting services, domain names and registration services. How to implement and understand web communication tools and develop and understand the impact of participating in social networks and the changing nature of these networks.
Recommended: CIOS F150 or equivalent skills.
Lecture + Lab + Other: 3 + 0 + 0

CITS F221  Graphics and Multimedia for the Web
3 Credits
Offered As Demand Warrants
Creating graphics and multimedia content for the Web. Graphic topics include formats, size and resolution, optimization and design fundamentals. Multimedia topics include animation, interactivity and combining sound, speech, graphics, photographs and video.
Recommended: CIOS F150, or equivalent skills.
Lecture + Lab + Other: 3 + 0 + 0

CITS F222  Website Design
1-3 Credits
Offered As Demand Warrants
A comprehensive survey of professional website design and authoring tools used to create Internet websites. Topics include website design and planning, HTML and CSS.
Recommended: CIOS F150 or equivalent skills.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F224  Web Scripting
3 Credits
Offered As Demand Warrants
Introduction to client-side Web page scripting. Covers basic programming concepts, including data representation, functions, control structures and arrays. Topics include client-side scripting with JavaScript, object-oriented JavaScript, design issues, error handling, security, the Document Object Model and dynamic HTML and AJAX.
Prerequisite: CITS F205 or CS F103; CITS F222; or equivalent skills.
Lecture + Lab + Other: 3 + 0 + 0
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Offered As Demand Warrants</th>
<th>Course Description</th>
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<tr>
<td>CITS F225</td>
<td>Web Databases and Programming</td>
<td>3</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course focuses on database design, programming, and integration with web applications. Develops skills in automated websites, dynamic page generation, and access web databases. Course topics include SQL, PHP, and web technologies.</td>
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<tr>
<td>CITS F228</td>
<td>Advanced Website Design and Development</td>
<td>3</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course covers the integration and design of multiple website components, with an emphasis on server-side development. Course topics include PHP, MySQL, and web communication tools.</td>
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<tr>
<td>CITS F240</td>
<td>System and Network Services Administration</td>
<td>3</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course focuses on the design and administration of network services operating within a network environment. Course topics include network access, file and print, and network management systems.</td>
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<tr>
<td>CITS F241</td>
<td>Networking and LAN Infrastructure Basics</td>
<td>4</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course covers network infrastructure, internet models, and network security fundamentals. Course topics include network addressing, and security policies and responding to incidents.</td>
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<tr>
<td>CITS F242</td>
<td>Routing and Switching Essentials</td>
<td>4</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course focuses on routing concepts, including OSPF, ACL concepts, WAN, VPN and IPSEC, QoS, and network design, troubleshooting, virtualization, and automation.</td>
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<tr>
<td>CITS F243</td>
<td>Intermediate Networking and LAN Infrastructure</td>
<td>4</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course covers network routing concepts, including OSPF, ACL concepts, WAN, VPN and IPSEC, QoS, and network design, troubleshooting, virtualization, and automation.</td>
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<tr>
<td>CITS F244</td>
<td>Advanced Network Infrastructure Services</td>
<td>4</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course covers the architecture and components of cloud-based computer systems. Covers topics that prepare students for the AWS cloud foundations certification as well as other cloud formats.</td>
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<tr>
<td>CITS F249</td>
<td>Networking and Communications: Topics</td>
<td>1-4</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course covers objectives defined for CompTIA Security+ certification. Course topics include understanding threats to a computing infrastructure, understanding encryption technologies, securing network communications and applications, and security policies and responding to incidents.</td>
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<tr>
<td>CITS F261</td>
<td>Computer and Network Security</td>
<td>3</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course focuses on computer and network security. Course topics include understanding threats to a computing infrastructure, understanding encryption technologies, securing network communications and applications, and security policies and responding to incidents.</td>
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<tr>
<td>CITS F262</td>
<td>Cybersecurity Defense and Countermeasures</td>
<td>3</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course focuses on network and information systems security from a defensive point of view. Students will learn how to analyze internal and external security threats, develop security policies, and implement security measures to protect information within an enterprise.</td>
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<td>CITS F263</td>
<td>Network Security Penetration Testing</td>
<td>3</td>
<td>Offered As Demand Warrants</td>
<td></td>
<td>This course focuses on network and information systems security from an offensive point of view. Students will learn technical testing and examination techniques used to identify, validate and assess technical vulnerabilities within an enterprise. Topics include penetration testing methodology, footprinting and reconnaissance, scanning and enumeration, vulnerability validation, data collection and reporting.</td>
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</tbody>
</table>
CITS F265  Directory Services Administration
3 Credits
Offered As Demand Warrants
The purpose and components that make up directory services and the role these services play in storing, organizing and managing information in a network environment. How to create and configure directory service objects to manage access to network resources, to implement and manage group policy objects, and to backup, restore, monitor and troubleshoot directory service related issues. Course covers advanced directory services administration objectives required for Microsoft Certified Solutions Associate (MCSA) certification exams related to server technologies.
Prerequisite: CITS F212 (may be taken concurrently) or equivalent skills.
Lecture + Lab + Other: 3 + 0 + 0

CITS F281  Professional Practices in IT
1-3 Credits
Offered As Demand Warrants
Prepares students for work as an IT professional. Topics include: providing computer technical support, user support management, soft skills in IT, resume writing and career exploration, diagnosing problems, researching and documenting solutions, meeting user needs, developing training materials and giving workshops and lessons.
Prerequisites: 24 credits in CITS courses.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F282  IT Troubleshooting Skills
1-3 Credits
Offered As Demand Warrants
Practical IT troubleshooting skills, including hardware, software, networks and operating systems. The course will include practical and useful troubleshooting scenarios.
Prerequisites: CITS F203; CITS F204 or equivalent skills.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F284  Independent Project
1-3 Credits
Offered As Demand Warrants
Student created project or internship that includes learning new skills, applying the skills to significant problems, and demonstrating the results to other computer users. Includes application of learned skills in a professional manner.
Prerequisites: 12 credits in CITS courses.
Lecture + Lab + Other: 1-3 + 0 + 0

CITS F285  Cooperative Work Experience
3 Credits
Offered As Demand Warrants
On-the-job training related to occupational objectives. Weekly seminar with coordinator required.
Prerequisites: 12 credits in CITS courses.
Lecture + Lab + Other: 3 + 0 + 0

CITS F288  Professional Certification Review
1-3 Credits
Offered As Demand Warrants
Prepares students for national or industry specific certification examination.
Lecture + Lab + Other: 1-3 + 0 + 0