Information Technology Systems

(1 to 2 1/2 Years)

One Basic Technical Certificate, one Advanced Technical Certificate, one Associate of Applied Science degree, and one Bachelor of Applied Science degree are available.

Objectives

1. To develop entry-level skills in setup, servicing, maintaining, and troubleshooting of computer systems/networks.
2. To develop entry-level skills in server installation, configuration, and administration.
3. To develop entry-level collaboration, business acumen, critical thinking, problem-solving, and troubleshooting skills.
4. To develop an awareness and fundamental knowledge of security concerns and procedures related to computing and networking.

Courses listed will be taught in sequential blocks of instruction. Successful completion of a course is required before the student can progress in the program. If the student fails any math, theory, or lab course, then that course must be repeated and a passing grade of C- or better obtained before the student can advance in the program. However, a C- could prevent a student from graduating if the cumulative grade point average is less than 2.0 (a C- equals 1.7). A student must have a 2.0 GPA in the program’s required curriculum in order to be eligible for a certificate or degree.

Upon completion of the Associate of Applied Science degree, a Bachelor of Applied Science degree is available to a student with the completion of formally approved academic courses.

For a Program Information Packet, go to the URL https://www.isu.edu/informationtechnologysystems/ which leads to a description of the program in general, course descriptions, lists of course sequences, and the cost of books, tools, uniforms, fees, and other expenses.

Each course must be completed with a C- or better before the student can progress in the program.

Faculty

Coordinator and Senior Instructor


Instructor


Basic Technical Certificate: Computer Network Technician

(1 Year)

Required Courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ITS 0100</td>
<td>Computer Essentials</td>
<td>4</td>
</tr>
<tr>
<td>ITS 0110</td>
<td>Cisco Certified Network Associate 1</td>
<td>4</td>
</tr>
<tr>
<td>ITS 0120</td>
<td>Introduction to Linux</td>
<td>3</td>
</tr>
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Total Credits 29

1 Contributes to a General Education requirement.

Advanced Technical Certificate: Computer Network Technician

(2 Years)

Required Courses:

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<tr>
<td>ITS 0205</td>
<td>Information Technology Internship</td>
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<tr>
<td>ITS 0215</td>
<td>Networking II</td>
<td>3</td>
</tr>
<tr>
<td>ITS 0218</td>
<td>PowerShell Scripting</td>
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</tr>
<tr>
<td>ITS 0220</td>
<td>Networking III</td>
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<tr>
<td>ITS 0230</td>
<td>Wireless Technologies</td>
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</tr>
<tr>
<td>ITS 0240</td>
<td>Securing the LAN</td>
<td>4</td>
</tr>
<tr>
<td>TGE 0158</td>
<td>Employment Strategies</td>
<td>2</td>
</tr>
<tr>
<td>TGE 1150</td>
<td>Applied Social Sciences in the Workplace</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1101</td>
<td>English Composition</td>
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</tr>
<tr>
<td>or ENGL 1101P</td>
<td>English Composition Plus</td>
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</tr>
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Total Credits 55

1 Contributes to a General Education requirement.

Associate of Applied Science Degree: Information Technology Systems

(2 Years)

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ITS 0205 Information Technology Internship 7
ITS 0215 Networking II 3 
ITS 0218 PowerShell Scripting 3 
ITS 0220 Networking III 3 
ITS 0230 Wireless Technologies 3 
ITS 0240 Securing the LAN 4 
TGE 0158 Employment Strategies 2 
TGE 1150 Applied Social Sciences in the Workplace 1 3

General Education courses 2
COMM 1101 Principles of Speech 1 3 
Additional General Education courses 12
Total Credits 67

1 Contributes to a General Education requirement.
2 See General Education Requirements (minimum 15 credits) for A.A.S. Degree at the start of the College of Technology section of the catalog.

Courses

**ITS 0100 Computer Essentials: 4 semester hours.**
This course provides students with the knowledge of computer hardware and software and advanced concepts such as security, networking, and the responsibilities of an IT professional. Students who complete this course will be able to explain the internal components of a computer, describe how to assemble a computer system and install an operating system. Students working through hands-on activities will gain skills in computer assembly, configuration, and maintenance. F, S

**ITS 0110 Cisco Certified Network Associate I: 4 semester hours.**
Introduction to the OSI reference model, network addressing, sub-netting, TCP/IP network-layer protocols, LAN media and topology, and networking devices. F, S

**ITS 0120 Introduction to Linux: 3 semester hours.**
Introduction to LINUX operating system and graphical user interfaces. Includes an overview of the Red Hat LINUX distribution. Lecture/laboratory. F, S

**ITS 0135 Windows Desktop Operating Systems: 3 semester hours.**
Students will be introduced to the latest Microsoft Desktop Operating System used in the Information Technology industry. F, S

**ITS 0150 Networking I: 4 semester hours.**
Introduction to theory and troubleshooting methods for network systems to include IP routing protocols, EIGRP, OSPF, OSI model, switching technologies, and safety procedures. PREREQ: ITS 0110. F, S

**ITS 0165 Cybersecurity: 3 semester hours.**
An introduction to Cybersecurity that explores the importance of cybersecurity, data confidentiality, best practices for using the internet and social media safely, and potential opportunities in this growing field. PREREQ: ITS 0110

**ITS 0180 Network Operating Systems: 3 semester hours.**
Study of multi-user, multi-tasking networking operating systems. Characteristics of current industry operating systems software. Topics include installation procedures, security issues, back up procedures and remote access. Lecture/Laboratory. PREREQ: ITS 0120 and ITS 0135. F, S

**ITS 0205 Information Technology Internship: 7 semester hours.**
Students will work in the information technology industry performing various tasks related to IT roles, putting their classroom learning into practical situations. PREREQ: ITS 0110. Su

**ITS 0215 Networking II: 3 semester hours.**
Advanced study of theory and troubleshooting methods for network systems to include IP routing protocols, advanced EIGRP concepts, OSPF multi-area, OSI model, switching technologies such as EtherChannel and HSRP, and safety procedures. PREREQ: ITS 0150. F, S

**ITS 0218 PowerShell Scripting: 3 semester hours.**
Introductory PowerShell scripting class that focuses on using PowerShell scripts to automate common system administration tasks. PREREQ: ITS 0180. F, S

**ITS 0220 Networking III: 3 semester hours.**
Wide Area Network technologies such as Point-to-Point Protocol, frame relay, and other emerging technologies. Lecture/Laboratory. PREREQ: ITS 0215. F, S

**ITS 0230 Wireless Technologies: 3 semester hours.**
Design, planning, implementation, operation and troubleshooting of wireless networks. Comprehensive overview of technologies, security, and design best practices with emphasis on hands-on skills. Lecture/Laboratory. PREREQ: ITS 0150. F, S

**ITS 0240 Securing the LAN: 4 semester hours.**
Design and implement security solutions for LANs that will reduce the risk of revenue loss and vulnerability, via hands-on and instructor-led experience and e-learning. Lecture/Laboratory. PREREQ: ITS 0215. F, S

**ITS 0250 Computer Forensics: 3 semester hours.**
Use forensic software and techniques in recovering data, conducting data mining, and decrypting. Includes safe handling and preservation of original media, and finding hidden data. D

**ITS 0290 Internship: 1-8 semester hours.**
On-the-job experience in the information technology field. PREREQ: Pertinent course preparation and permission of program coordinator. F, S, Su

**ITS 0296 Independent Study: 1-8 semester hours.**
Addresses specific learning needs of individuals for the enhancement of knowledge and skills within the program area under the guidance of an instructor. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of the instructor. D

**ITS 0298 Special Topics: 1-8 semester hours.**
Addresses the specific needs of industry, enabling students to upgrade technical skills that are not included in the current program curriculum. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of instructor. D

**ITS 0299 Experimental Course: 1-6 semester hours.**
This is an experimental course. The course title and number of credits are announced in the class schedule by the scheduling department. Experimental courses may be offered no more than three times with the same title and content.