

# 2021-2022 TTC Catalog - Information Systems Technology (IST)

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## IST 161 - Introduction to Network Administration

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### Course Offered

Fall  
Spring  
Summer

This course is an introductory study of networking operating system administration. Techniques of installation and administration of a networking operating system will be included. This course will focus on Microsoft Desktop Administration. This course covers the objectives of the associated Microsoft certification exam.

**Grade Type:** Letter Grade

**Division:** Business Technology

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## IST 164 - Implementing Windows Network Infrastructure Services

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### Course Offered

Spring  
Summer

This course is a study of the fundamentals of installing, configuring and utilizing Windows networking services while exploring techniques used to design, create and implement secure communications across the networks, which may consist of multiple vendors. Emphasis is also provided on support of remote users and central management concepts. This course covers the objectives of the associated Microsoft certification.

### Prerequisite

IST 165

**Grade Type:** Letter Grade

**Division:**

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## **IST 165 - Implementing and Administering Windows Directory Services**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course is a study of directory services covering the planning, design, installation, configuration and administration of a network directory structure. This course covers the objectives of the associated Microsoft certification exam.

### **Prerequisite**

IST 166

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 166 - Network Fundamentals**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course is a study of local area networking concepts through discussions on connectivity, communications and other networking fundamentals. The course is designed to prepare the student to be successful in completing industry network fundamental certification exams. This course covers the content included in the CompTIA Network + certification exam.

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 190 - Linux Essentials**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course provides students with the fundamental knowledge and concepts of the Linux operating system, including command line functions, file systems, user and group administration, process management, text editors, and network applications. This course helps students prepare for the CompTIA Linux+ certification exam.

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 191 - Linux System Administration**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall

Spring

Summer

This course provides students with the skills necessary to administer a Linux system, including hardware/software configuration, user and group administration, Linux network configuration, and file system management. This course helps students prepare for the RedHat Certified Systems Administrator (RHCSA) certification exam.

### **Prerequisite**

IST 190

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 192 - Linux Network Applications**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Summer

This course provides students with the skills necessary to deploy and administer the core networking services in a Linux system, such as Apache Web Server, Samba File Server, BIND Domain Name Service, NFS and others. This course helps students prepare for the RedHat Certified Engineer (RHCE) certification exam.

### **Prerequisite**

IST 191

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 198 - Cloud Essentials**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course is a study of Cloud computing as a framework for providing network access to shared computing resources including storage, network, server and virtualization infrastructures.

### **Prerequisite**

IST 166  
or  
IST 190

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 201 - Cisco Internetworking Concepts**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring

This course is a study of current and emerging computer networking technology. Topics include safety, networking, network terminology and protocols, network standards, LANs, WANs, OSI model, cabling tools, Cisco routers, router programming, star topology, IP addressing, and network standards. This helps prepare students for the Cisco Certified Network Associate (CCNA) credential.

### **Prerequisite**

IST 166

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 202 - Cisco Router Configuration**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall

Spring

This course is a study of LANs, WANs, OSI model, Ethernet, token ring, FDDI, TCP/IP protocol, dynamic routing, and the network administrator's role and function. This helps prepare students for the Cisco Certified Network Associate (CCNA) credential.

**Prerequisite**

IST 201

**Grade Type:** Letter Grade

**Division:** Business Technology

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**IST 203 - Advanced Cisco Router Configuration**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

**Course Offered**

Spring

This course is a study of configuring Cisco routers. This helps prepare students for the Cisco Certified Network Associate (CCNA) credential.

**Prerequisite**

IST 202

**Grade Type:** Letter Grade

**Division:** Business Technology

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**IST 204 - Cisco Troubleshooting**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

**Course Offered**

Spring

This course is a study of troubleshooting network problems. This helps prepare students for the Cisco Certified Network Associate (CCNA) credential.

**Prerequisite**

IST 203

**Grade Type:** Letter Grade

**Division:** Business Technology

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**IST 205 - Cisco Advanced Routing**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

This course is a study of the concepts and technologies of extending IP addresses, routing principles, scalable routing protocols, managing traffic and access, and building and optimizing scalable Internetworks. The course puts emphasis on expanding network capabilities. The course focuses on learning using technologies such as wireless networks, advanced routing, and network redundancy to ensure high availability in enterprise networks. This course helps prepare students for careers as associate-level Cybersecurity Analysts and for the Cisco Certified Network Associate in Cyber Operations certification exams.

**Prerequisite**

IST 190

and

**Corequisite**

IST 202

and

**Prerequisite or Corequisite**

IST 293

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 206 - Cisco Remote Access**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

**Course Offered**

Summer

This course is a study of building a remote access network to interconnect central sites to branch offices and home office/telecommuters, control access to the central site and maximize bandwidth utilization over the remote links. This course provides an in-depth understanding of network infrastructure security. This include configuring Hardware Firewalls, Virtual Private Network (VPN) tunnels, protecting Layer-2 switchports, Implementing intrusion prevention, and network device authentication authorization, and accounting.

**Prerequisite**

IST 202

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 207 - Cisco Multilayer Switching**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

This course is a detailed study of how routing and switching technologies work together. Included is an in-depth analysis of combining layer 2 and layer 3 switching technologies. This course expands knowledge of network hierarchical design with emphasis on various WAN protocol configuration, current Broadband technologies, network security, and troubleshooting. This course helps prepare students for careers as associate-level Cybersecurity Analysts and for the Cisco Certified network Associate in Cyber Operations certification exams.

**Prerequisite**

IST 205

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 209 - Fundamentals of Wireless LANs**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

This introductory course is the study of design, installation, configuration, operations and troubleshooting of wireless LANs. The course includes an overview of wireless technologies, standards, devices, security, design and best practices, emphasizing real-world applications and skills. This helps prepare students for the Cisco Certified Network Associate (CCNA) wireless credential.

**Prerequisite**

IST 204

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 235 - Handheld Computer Programming**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

**Course Offered**

Fall

Spring

This course is a survey of the techniques of rapid application development for handheld devices. Topics include setup of development environment, creation and deployment of programs, and design strategies to overcome memory and interface limitations. The focus of the course will be the development of software for the Android mobile phone.

**Prerequisite**

IST 239

with a minimum grade of C

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 239 - Datum and JavaScript**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall

Spring

Summer

This course includes concepts and skills for developing dynamic functionality and interactivity for websites using JavaScript: variables, operators, conditionals, functions, objects (image and form), properties, methods, cookies, frames and arrays. This course covers the basics of the JavaScript language, how to place JavaScript into an HTML file and advanced JavaScript topics such as event handlers, arrays, forms and cookies.

### **Prerequisite**

CPT 162

or

ARV 227

and

CPT 114

or

CPT 167

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 250 - Network Management**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Spring

Summer

This course is a study of planning, organizing and controlling telecommunication functions for the potential telecommunications manager. It emphasizes current situations and techniques. This course covers the VMware virtualization objectives associated with the VMware Certified Professional (VCP) certification exam.

### **Prerequisite**

IST 253

**Grade Type:** Letter Grade  
**Division:** Business Technology

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## **IST 253 - LAN Service and Support**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course focuses on installing, maintaining and troubleshooting local area networks in a lab environment. This course covers an introduction to virtualization technologies and vendors including VMware, Microsoft and Citrix.

**Grade Type:** Letter Grade  
**Division:** Business Technology

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## **IST 260 - Network Design**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course is a study of the processes and techniques required to identify the most attractive design solution of a telecommunications network combining creativity, rigorous discipline, analysis, and synthesis while emphasizing the solution in terms of cost and performance.

### **Prerequisite**

IST 165  
and  
IST 166  
and  
IST 190  
and  
IST 202

**Grade Type:** Letter Grade  
**Division:** Business Technology

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## **IST 268 - Computer Forensics**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course provides students with a foundational knowledge in computer forensics investigation. Students are introduced to the skills, tools and methods used to gather, document and handle electronic evidence.

### **Prerequisite**

IST 190  
or  
IST 293

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 269 - Digital Forensics**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring

This course examines advanced technical aspects of digital computer evidence to include detection, collection, identification and preservation. Emphasis is placed on specific tools and methods for extracting deleted or destroyed computer-related evidence.

### **Prerequisite**

IST 268

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 272 - Relational Database**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall

This course provides a comprehensive foundation in both SQL and relational database design and implementation. Dynamic and embedded SQL programming techniques are emphasized. Additional topics include forms developer, triggers, stored procedures and PL/SQL programming.

**Prerequisite**

CPT 202

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 274 - Database Administration**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

**Course Offered**

Spring

This course is a study of the duties and responsibilities of a database administrator. The course covers setting up, maintaining, and troubleshooting a distributed, multi-user database.

**Prerequisite**

CPT 202

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 286 - Technical Support Internship I**

**Lec:** 0 **Lab:** 9.0 **Credit:** 3.0

**Course Offered**

Fall

Spring

Summer

This course is an entry-level technical support/help desk internship. Students intern at the college's help desk and provide support to faculty and staff. Students will participate in weekly evaluation sessions of calls and solutions.

**Prerequisite**

CPT 209

and

IST 165

and

departmental approval

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 287 - Technical Support Internship II**

**Lec:** 0 **Lab:** 9.0 **Credit:** 3.0

### **Course Offered**

Fall

Spring

This course is an intermediate-level technical support/help desk internship. Students intern at the college's help desk and provide support to faculty and staff. The student prepares a portfolio for submission.

### **Prerequisite**

IST 286

and

departmental approval

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 290 - Special Topics in Information Sciences**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Summer

This course covers special topics in information sciences technologies.

Departmental approval

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 291 - Fundamentals of Network Security I**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Spring

Summer

This course is a study of introductory levels of security processes based on a security policy, emphasizing hands-on skills in the area of secure perimeter, security connectivity, security management, identity services and intrusion detection. The course prepares students to manage network security. This course covers the objectives associated with the CompTIA Advanced Security Practitioner (CASP) certification exam.

**Prerequisite**

IST 190

and

IST 293

**Grade Type:** Letter Grade

**Division:** Business Technology

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**IST 292 - Fundamentals of Network Security II**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

**Course Offered**

Fall

Spring

Summer

This course is a study of advanced security processes based on a security policy, emphasizing hands-on skills in the area of secure perimeter, security connectivity, security management, identity services and intrusion detection. The course prepares students to install/configure secure firewalls. This course leverages skills and knowledge in the Network and Cybersecurity curriculum to build, document and demonstrate a secure information technology infrastructure

**Prerequisite**

IST 191

and

IST 268

and

IST 291

and

IST 294

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 293 - IT and Data Assurance I**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Fall  
Spring  
Summer

This course introduces the basics of network security. Topics covered will include network vulnerabilities and threats, security planning, security technology, network security organization, as well as legal and ethical issues related to network security. This course will provide coverage of the objectives associated with the CompTIA Security+ certification.

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 294 - IT and Data Assurance II**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Spring  
Summer

This course introduces methods for attacking a network. Concepts, principles, tools and techniques for attacking and disabling a network will be covered in the context of understanding how to properly secure a network as a network administrator. This course will provide coverage of the learning objectives associated with the EC-Council Certified Ethical Hacker certification. Topics such as social engineering, physical security and logistics will also be discussed.

### **Prerequisite**

IST 293

**Grade Type:** Letter Grade

**Division:** Business Technology

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## **IST 298 - Advanced Cloud Computing**

**Lec:** 3.0 **Lab:** 0 **Credit:** 3.0

### **Course Offered**

Spring

This course covers advanced concepts of cloud computing. Topics include how to implement, administer and troubleshoot private and public cloud services, delivery models, virtualization infrastructures, storage and networks.

**Prerequisite**

IST 198

**Grade Type:** Letter Grade

**Division:** Business Technology

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