

# Networking and Support Systems

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The Networking and Support Systems Department at Cincinnati State prepares students to successfully install, maintain, and support networking systems for industries, businesses, and other organizations. Numerous entities—from large corporations to individual households—rely on computer networks to enhance production and complete daily tasks. The associate's degree programs in Networking and Support Systems provide areas of specialization for students interested in a computer networking career.

- **Business Network Administration (NETB)** is a business degree program that prepares graduates for careers in the software, administration, and security areas of networking with a concentration on the business side of the networking industry. Students complete business courses in marketing, management, accounting, and law. Networking courses focus on design, administration, security, and network maintenance.
- **Computer Network Engineering Technology (NETC)** prepares graduates to work in the hardware industry of the networking field. It is an engineering-based program, emphasizing installation, setup, maintenance, and troubleshooting of network hardware. Students complete courses in physics, engineering-based electronics, and networking hardware.
- The new **Computer Network Engineering Technology Cyber-Security major (NETCCS)** prepares graduates to assist organizations that must comply with regulations related to information security, or safeguard customer information or other sensitive data.
- **Computer Support and Administration Technology (CSA)** has less emphasis on electronics. Students in this program should have an interest in the basics of electronics and desire extensive training in the installation and maintenance of personal computers. Graduates attain positions as PC technicians, help desk managers, and PC user trainers.

## Business Network Administration (NETB)

Students in the Business Network Administration program learn to plan, implement, analyze, and administer local, campus-wide, metropolitan, and wide area networks. Students develop expertise in all facets of networking including network operating systems, security systems, network hardware, server administration, virtualization, and messaging tools. Graduates of the NETB program are proficient with server setup and configuration, server administration, network security measures, messaging, network wiring, and network help desk operations.

Career opportunities for program graduates vary due to the diverse occupations available in the business industry.

Job titles for NETB graduates may include: Network Administrator, Network Specialist, Network Technician, and Network Security Administrator.

## Computer Network Engineering Technology (NETC)

The Computer Network Engineering Technology program emphasizes the design, installation, and support of an organization's local area network (LAN), wide area network (WAN), network segment, internet, or intranet system. Graduates of the program provide day-to-day, on-site administrative support for a variety of work environments, including professional offices, small businesses, schools, government agencies, and large corporations.

The Computer Network Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, phone: (410) 347-7700

## Computer Network Engineering Technology - Cyber-Security Major (NETCCS)

Note: This major is pending approval by the Ohio Board of Regents.

The Cyber-Security major combines technical knowledge and skills in Computer Network Engineering Technology with understanding of security planning, risk mitigation, and related documentation requirements. Graduates are prepared to assist organizations that must comply with federal or state government regulations related to information security, or must meet payment card industry requirements to safeguard customer information or other sensitive data.

## Computer Support and Administration Technology (CSA)

Computer Support and Administration program graduates are troubleshooters responsible for interpreting problems and providing technical support assistance, support, and advice to customers and users. Students learn to install, set up, and maintain hardware and software for microcomputers. Courses include computer operating systems, data communications, networking, and support center management.

Career opportunities for program graduates are diverse, for several reasons. The sheer number of computers and users in business and industry creates ever-changing work environments and challenges. Also, gaining assistance in using software effectively is generally a high priority for businesses and users. Finally, the graduate's knowledge and skills are applicable to a class of computers, rather than to a particular company, so graduates have significant job mobility as well as opportunities for entrepreneurial work.

Job titles for Computer Support and Administration graduates may include: senior PC support technician, PC system coordinator, or helpdesk manager.

## Business Network Administration (NETB)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
ENG 101	English Composition 1	3	0	3
IT 105	Information Technology Concepts	2	3	3
NETB 120	Computer Virtualization	2	3	3
IT 115	Operating Systems Administration	2	3	3
CIT 190	Career Preparation: Engineering and Information Technologies	1	0	1
MAT 121	Technical Algebra and Geometry with Statistics	2	2	3
<b>Semester 2</b>				
MGT 101	Principles of Management	3	0	3
ENG 1XX English Composition Elective				3
NETB 115	Networking Essentials	2	3	3
NETB 155	Server Administration	3	2	4
ECO 105	Principles of Microeconomics	3	0	3
<b>Semester 3</b>				
NETB 291	Full-Time Cooperative Education 1: Business Network Administration	1	40	2
<b>Semester 4</b>				
NETB 135	IT Support Desk Concepts	3	2	4
NETB 215	Electronic Messaging Administration	3	2	4
NETB 225	Information Security	3	2	4
COMM 110	Public Speaking	3	0	3
<b>Semester 5</b>				
NETB 125	Open Source Operating Systems and Applications	2	3	3
NETB 290	Business Network Administration Capstone	2	5	4
XXX XXX Humanities/Social Science Elective				3
XXX XXX Business Elective				3
<b>Semester 6</b>				
NETB 292	Full-Time Cooperative Education 2: Business Network Administration	1	40	2
<b>Total Credits:</b>		<b>41</b>	<b>110</b>	<b>64</b>

## Electives

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Topics in Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Humanities/Social Science Elective

Any ART, CULT, FRN, SPN, LIT, MUS, PHI, RE, THE	3
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COMM 130	Introduction to Film Studies	3
<b>Business Elective</b>		
ACC 101	Financial Accounting	3
LAW 101	Business Law	3
MKT 101	Principles of Marketing	3

## Computer Network Engineering Technology (NETC)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

Semester 1		Lec	Lab	Credits
NETC 121	Network Communications 1	2	2	3
MAT 125	Algebra and Trigonometry	3	2	4
ENG 101	English Composition 1	3	0	3
EET 131	Circuit Analysis 1	3	2	4
CIT 190	Career Preparation: Engineering and Information Technologies	1	0	1
<b>Semester 2</b>				
COMM 110	Public Speaking	3	0	3
MAT 126	Functions and Calculus	3	2	4
EET 121	Digital Systems 1	2	2	3
EET 132	Circuit Analysis 2	3	2	4
NETB 155	Server Administration	3	2	4
<b>Semester 3</b>				
NETC 291	Full-Time Cooperative Education 1: Computer Network Engineering Technology	1	40	2
<b>Semester 4</b>				
PHY 151	Physics 1: Algebra and Trigonometry-Based	3	3	4
NETC 122	Network Communications 2	2	2	3
NETC 230	Network Security Design	2	2	3
EET 122	Digital Systems 2	3	2	4
<b>Semester 5</b>				
NETC 240	Emerging Topics in Computer Network Engineering Technology	2	3	3
NETC 290	Computer Network Engineering Technology Capstone Project	2	2	3
PSY 110	Introduction to Psychology	3	0	3
ENG 10X English Composition Elective				3
XXX XXX Humanities/Social Science Elective				3
<b>Semester 6</b>				
NETC 292	Full-Time Cooperative Education 2: Computer Network Engineering Technology	1	40	2
Total Credits:		45	108	66

## Electives

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Topics in Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
<b>Humanities/Social Science Elective</b>		
COMM 130	Introduction to Film Studies	3
Any ART, CRJ, CULT, ECO, FRN, GEO, HST, LIT, LBR, MUS, PHI, POL, PSY (except PSY 110), REL, SOC, SPN, THE		3

## Computer Network Engineering Technology - Cyber-Security Major (NETCCS)

Note: This major is pending approval by the Ohio Board of Regents.

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
NETC 121	Network Communications 1	2	2	3
CIT 190	Career Preparation: Engineering and Information Technologies	1	0	1
MAT 131	Statistics 1	2	2	3
ENG 101	English Composition 1	3	0	3
MGT 130	Project Management	3	0	3
<b>Semester 2</b>				
NETC 122	Network Communications 2	2	2	3
NETC 170	Governance and Management of IT	3	3	4
NETB 155	Server Administration	3	2	4
PSY 110	Introduction to Psychology	3	0	3
<b>Semester 3</b>				
NETC 291	Full-Time Cooperative Education 1: Computer Network Engineering Technology	1	40	2
<b>Semester 4</b>				
NETC 180	Information Risk Management	3	3	4
NETC 230	Network Security Design	2	2	3
PHY 150	Introduction to Physics	2	2	3
COMM 110	Public Speaking	3	0	3
ENG 10X English Composition Elective				3
<b>Semester 5</b>				
NETC 240	Emerging Topics in Computer Network Engineering Technology	2	3	3
NETC 280	IT Documentation	3	3	4
NETC 290	Computer Network Engineering Technology Capstone Project	2	2	3
IT 215	Scripting	2	2	3
XXX XXX Humanities/Social Science Elective				3
<b>Semester 6</b>				

NETC 292	Full-Time Cooperative Education 2: Computer Network Engineering Technology	1	40	2
Total Credits:		43	108	63

## Electives

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Topics in Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Humanities/Social Science Elective

COMM 130	Introduction to Film Studies	3
Any ART, CRJ, CULT, ECO, FRN, GEO, HST, LIT, LBR, MUS, PHI, POL, PSY (except PSY 110), REL, SOC, SPN, THE		3

## Computer Support and Administration Technology (CSA)

All degree-seeking students must complete a First Year Experience (FYE) course as part of the first 12 credit hours taken at Cincinnati State.

<b>Semester 1</b>		<b>Lec</b>	<b>Lab</b>	<b>Credits</b>
ENG 101	English Composition 1	3	0	3
IT 105	Information Technology Concepts	2	3	3
IT 115	Operating Systems Administration	2	3	3
MAT 121	Technical Algebra and Geometry with Statistics	2	2	3
CIT 190	Career Preparation: Engineering and Information Technologies	1	0	1
<b>Semester 2</b>				
EET 101	Electronic Fundamentals 1	2	3	3
CSA 111	Computer Repair 1	2	3	3
NETC 121	Network Communications 1	2	2	3
NETB 125	Open Source Operating Systems and Applications	2	3	3
ENG 10X English Composition Elective				3
<b>Semester 3</b>				
CSA 291	Full-Time Cooperative Education 1: Computer Support and Administration	1	40	2
<b>Semester 4</b>				
CSA 112	Computer Repair 2	2	3	3
EET 102	Electronic Fundamentals 2	3	2	4
NETB 135	IT Support Desk Concepts	3	2	4
COMM 110	Public Speaking	3	0	3
IT XXX Programming Elective				3
<b>Semester 5</b>				
NETB 155	Server Administration	3	2	4
CSA 213	Computer Repair 3	2	2	3
CSA 290	Computer Support and Administration Capstone	2	2	3
PSY 110	Introduction to Psychology	3	0	3

XXX XXX Humanities Elective				3
<b>Semester 6</b>				
CSA 292	Full-Time Cooperative Education 2: Computer Support and Administration	1	40	2
Total Credits:		41	112	65

## Electives

### English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Topics in Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

### Programming Elective

IT 101	.NET Programming 1	3
IT 110	HTML with CSS and JavaScript	4
IT 111	Database Design and SQL	4

### Humanities Elective

COMM 130	Introduction to Film Studies	3
Any ART, CULT, FRN, LIT, MUS, PHI, REL, SPN, THE		3

## NETB Courses

### NETB 115 Networking Essentials

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on managing operating systems in a network environment. Topics include: topologies and technologies, protocols, network security, network administration, network problem solving, and network support.

Prerequisites: IT 105, IT 115

### NETB 120 Computer Virtualization

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on operating systems in a virtual environment. Topics include: basics of virtualization, advantages of using virtual software, and installing virtual systems.

Prerequisites: AFL 085, AFM 090

### NETB 125 Open Source Operating Systems and Applications

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on the open source movement and the essential operating systems and applications. Topics include: history of open source, Linux operating system, file systems, and troubleshooting.

Prerequisites: IT 105, IT 115

### NETB 135 IT Support Desk Concepts

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

An introduction to information technology support desk operations and procedures. Topics include: product evaluation, procedures, roles and responsibilities, support management, needs assessment, and troubleshooting.

Prerequisites: IT 105, IT 115

### NETB 155 Server Administration

**4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on user administration for Microsoft Windows server technology. Topics include: adding and deleting users, user privileges, deploying and managing software, client software, and directory services.

Prerequisites: NETC 121 or IT 105 and IT 115

### NETB 191 Part-Time Cooperative Education 1: Business Network Administration

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETB 192 Part-Time Cooperative Education 2: Business Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 191

**NETB 193 Part-Time Cooperative Education 3: Business Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 192

**NETB 194 Part-Time Cooperative Education 4: Business Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 193

**NETB 195 Part-Time Cooperative Education 5: Business Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 194

**NETB 196 Part-Time Cooperative Education 6: Business Network Administration****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 195

**NETB 198 First Year Special Topics in Business Network Administration****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Business Network Administration, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

**NETB 199 First Year Independent Project in Business Network Administration****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Business Network Administration that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Business Network Administration faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

**NETB 215 Electronic Messaging Administration****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on messaging using a networked system. Topics include: installation and setup of exchange server, managing recipients and addresses, backup and recovery, managing data storage, and troubleshooting.

Prerequisites: NETB 115, NETB 155

**NETB 225 Information Security****4 Credits. 3 Lecture Hours. 2 Lab Hours.**

A course on information security and technology ethical issues. Topics include: security implementation, software protection, physical security, privacy, cryptography, policies, and ethics of IT organizations.

Prerequisites: NETB 115, NETB 155

**NETB 290 Business Network Administration Capstone****4 Credits. 2 Lecture Hours. 5 Lab Hours.**

Students demonstrate knowledge and skills while completing a project related to the Business Network Administration program. Topics include: analyzing and designing proper network architecture, developing business network solutions, and installing and implementing networks.

Prerequisites: NETB 225, COMM 110

**NETB 291 Full-Time Cooperative Education 1: Business Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETB 292 Full-Time Cooperative Education 2: Business Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 291

**NETB 293 Full-Time Cooperative Education 3: Business Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 292

**NETB 294 Internship 1: Business Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETB 295 Internship 2: Business Network Administration****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETB 294

**NETB 298 Second Year Special Topics in Business Network Administration****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Business Network Administration, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

**NETB 299 Second Year Independent Project in Business Network Administration****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Business Network Administration that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Business Network Administration faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

**NETC Courses****NETC 121 Network Communications 1****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on computer networks and network operating systems. Topics include: network topology, local and wide area networks, connecting devices to networks, basic network software and file sharing, and problem solving. This course helps students prepare for the NET+ exam.

Prerequisites: AFL 085 and AFM 095 or MAT 121, or appropriate placement test score

**NETC 122 Network Communications 2****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A continuation of NETC 121. Topics include: routing protocols, spanning tree, VLANs and network security, and network address translation.

Prerequisites: NETC 121

**NETC 170 Governance and Management of IT****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on frameworks for organizational governance of information technology. Topics include: IT portfolio management, risk and compliance, and business continuity planning and impact analysis.

Prerequisites: MGT 130, NETC 121

**NETC 180 Information Risk Management****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on methods for analyzing and classifying organizational data to maintain information security. Topics include: information ownership; information threats, vulnerabilities, and exposure; and investigating and assessing risk.

Prerequisites: NETC 122, NETB 155



**NETC 191 Part-Time Cooperative Education 1: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETC 192 Part-Time Cooperative Education 2: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 191

**NETC 193 Part-Time Cooperative Education 3: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 192

**NETC 194 Part-Time Cooperative Education 4: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 193

**NETC 195 Part-Time Cooperative Education 5: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 194

**NETC 196 Part-Time Cooperative Education 6: Computer Network Engineering Technology****1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 195

**NETC 198 First Year Special Topics in Computer Network Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Computer Network Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

**NETC 199 First Year Independent Project in Computer Network Engineering Technology****1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Computer Network Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Computer Network Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval

**NETC 230 Network Security Design****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Topics include: design and testing of various layered network security software and hardware to protect business systems.

Prerequisites: NETC 121

**NETC 240 Emerging Topics in Computer Network Engineering Technology****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on current industry needs related to Computer Network Engineering Technology. Topics include: voice over internet protocol (VoIP) and Linux.

Prerequisites: NETC 122, NETB 155

**NETC 280 IT Documentation****4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course on documentation of IT systems focusing on general regulatory compliance requirements. Students use Microsoft Visio for laboratory activities.

Prerequisites: NETC 170, ENG 101

**NETC 290 Computer Network Engineering Technology Capstone Project**

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

Students work in teams to design and build network solutions while demonstrating knowledge and skills gained in the Computer Network Engineering Technology program.

Prerequisites: NETC 122, NETC 230, NETB 155, ENG 102

**NETC 291 Full-Time Cooperative Education 1: Computer Network Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: None

**NETC 292 Full-Time Cooperative Education 2: Computer Network Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 291

**NETC 293 Full-Time Cooperative Education 3: Computer Network Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 292

**NETC 294 Internship 1: Computer Network Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: CIT 190

**NETC 295 Internship 2: Computer Network Engineering Technology**

**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: NETC 294

**NETC 298 Second Year Special Topics in Computer Network Engineering Technology**

**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Computer Network Engineering Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: Instructor Approval

**NETC 299 Second Year Independent Project in Computer Network Engineering Technology**

**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Computer Network Engineering Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Computer Network Engineering Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Instructor Approval