Computer Network Engineering Technology (NETC)

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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 earn an Associate of Applied Science degree and are prepared to 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.

For more information, please contact the Engineering and Information Technologies Division at (513) 569-1743.

To apply for this program at Cincinnati State, visit the Admissions (http://www.cincinnatistate.edu/academics/admission/) section of the College website.

Computer Network Engineering Technology (NETC)

Semester 1		Lec	Lab	Credits
NETC 121	Network Communications 1 (**B**)	2	2	3
FYE 1XX First Year Experience Elective (**B**)		1	0	1
MAT 125	Algebra and Trigonometry (**B**)	3	2	4
ENG 101	English Composition 1 (**G**)	3	0	3
CIT 190	Career Preparation: Engineering and Information Technologies (**T**)	1	0	1
EET 100	Introduction to Electrical Engineering Technology (**B**)	1	2	2
Semester 2				
MAT 126	Functions and Calculus (**G**)	3	2	4
NETA 155	Server Administration 1 (**B**)	3	2	4
EET 131	Circuit Analysis 1 (**T**)	3	2	4
Semester 3				
XXX XXX Cooperative Education or Transfer Elective 1 (**T**) *		1	40	2
EET 132	Circuit Analysis 2 (**T**)	3	2	4
Semester 4				
NETC 122	Network Communications 2 (**T**)	2	2	3
NETC 230	Network Security Design (**T**)	2	2	3
EET 121	Digital Systems 1 (**T**)	2	3	3
PHY 151	Physics 1: Algebra and Trigonometry-Based (**G**)	3	3	4
Semester 5				
NETC 240	Emerging Topics in Computer Network Engineering Technology (**T**)	2	3	3
NETC 290	Computer Network Engineering Technology Capstone Project (**T**)	2	2	3
ENG 10X English Composition Elective (**G**)		3	0	3
XXX XXX Arts/ Humanities or Social/ Behavioral Science Elective (**G**)		3	0	3
EET 122	Digital Systems 2 (**T**)	2	3	3
Semester 6				
XXX XXX Cooperative Education or Transfer Elective 2 (**T**) *		1	40	2
Total Credits:		**46**	**112**	**62**

Electives

First Year Experience Elective		
FYE 100	College Success Strategies: Overview	1
FYE 105	College Success Strategies: Overview and Application	2
FYE 110	College Success Strategies: Practice and Application	3
English Composition Elective		
ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3
Arts/Humanities or Social/Behavioral Science Elective		
PHI 110	Ethics	3
PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3
Cooperative Education or Transfer Electives [*]		
NETC 291	Full-Time Cooperative Education 1: Computer Network Engineering Technology	2

NETC 292	Full-Time Cooperative Education 2: Computer Network Engineering Technology	2
ESET 251	Electronics	4
IT 101	Programming 1	3
IT 110	HTML with CSS and JavaScript	3
IT 111	Database Design and SQL 1	3
IT 115	Operating Systems Administration 1	3
IT 161	Java Programming 1	3

* Program Chair approval is required for students planning to take a Transfer Elective course rather than participate in cooperative education.

Some courses are offered in alternative versions identified with a letter after the course number-- for example, ENG 101 and ENG 101A.

- This curriculum displays only course numbers without the added letter.
- The alternative version, when available, meets the requirements of the course version without the added letter.

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

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- Utilize network tools and software to troubleshoot and solve network problems.
- Configure and troubleshoot network systems.
- Develop and implement solutions for networking and security problems, balancing business concerns, technical issues, and security.
- Configure and test networking hardware.
- Explain networking protocols and their hierarchical relationship in both hardware and software.
- Demonstrate adequate preparation for career employment and/or pursuit of a baccalaureate degree.
- Effectively communicate technical information both orally and in writing.

Courses

NETC 121 Network Communications 1
4 Credits. 3 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 CompTIA Network+ exam.
Prerequisites: FYE 120 or placement into ENG 101 MAT 093 (minimum grade C) or appropriate Math placement

NETC 122 Network Communications 2
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A continuation of NETC 121. Topics include: access control lists, routing protocols, spanning tree, VLANs and network security, and network address translation.
Prerequisites: NETC 121

NETC 130 Introduction to Cybersecurity
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A course on fundamental concepts, principles, and practices of cybersecurity. Topics include: threats, risks, and vulnerabilities that exist in today's digital landscape; and how to protect computer systems, networks, and data from unauthorized access, attacks, and exploitation.
Prerequisites: NETC 121 and ENG 101

NETC 170 Governance and Management of IT
3 Credits. 2 Lecture Hours. 2 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: FYE 120 or placement into ENG 101

NETC 180 Information Risk Management
3 Credits. 2 Lecture Hours. 2 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 and NETA 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 230 Network Security Design
3 Credits. 2 Lecture Hours. 2 Lab Hours.
A course on developing security to protect business systems. Topics include: design and testing of various layered network security software and hardware.
Prerequisites: NETA 155 and NETC 121
Corequisites: NETC 122

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), cloud computing, and Linux.
Prerequisites: NETC 122 and NETA 155

NETC 280 IT Documentation
3 Credits. 2 Lecture Hours. 2 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 and ENG 101 and NETA 155

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 and NETC 230 and NETA 155 and 6 credits of English Composition

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