Computer Networking

Program Options:

AAS – Computer Networking

- ***Infrastructure Track***
- ***Integrated Networking Technologies Track***
- ***Systems Track***

Occupational Skills Award – Entry-Level Network Support ***(Shared by all tracks)***

Integrated Networking Technologies Track

Certificate 1 – Integrated Networking Cloud Technician

Certificate 1 – Integrated Networking Virtualization and

Storage Technician

Certificate 2 – Integrated Networking Administrator

Certificate 3 – Networking Systems Professional (CCNP)

(Shared by Integrated Networking Technologies and Systems Tracks)

Infrastructure Track (Cisco focus)

Certificate 1 – Infrastructure Technician (CCNA)

Certificate 1 – Wireless Infrastructure Technician

Certificate 2 – Infrastructure Administrator

Systems Track (Microsoft focus)

Certificate 1 – Systems Software Technician (MCSA)

Certificate 1 – Systems Technician

Certificate 2 – Systems Administrator

Certificate 3 – Networking Systems Professional (CCNP)

(Shared by Integrated Networking Technologies and Systems Tracks)

The Computer Networking program prepares graduates who will be able to design and install secure network systems based on customer requirements, monitor and maintain network traffic and security, and maintain network hardware and software. Courses and hands-on labs in this program will assist the graduate in preparing to take a variety of Cisco, Microsoft, and CompTIA certification examinations.

The Computer Networking – Infrastructure track prepares graduates to design and install secure network systems with a focus on managing network devices. Courses and hands-on labs in this track specifically prepare students for the Cisco Certified Network Associate (CCNA) the Cisco Certified Network Professional (CCNP) professional certification exams.

The Computer Networking – Systems track prepares graduates to design and secure network systems with a focus on managing servers. Courses and hands-on labs in this track prepare students for the Microsoft Certified Solutions Associate – Server 2016, and the Cisco Certified Entry-level Technician (CCENT).

The Computer Networking –Integrated Networking Technologies track prepares graduates to design and secure network systems with a focus on cloud, storage, and virtualization networking technologies. Courses and hands-on labs in this track prepare students for the broad spectrum of networking technologies and help prepare students for the Cisco Certified Entry-level Technician (CCENT) as well as Information Storage Management (EMC), and VmWare vSphere certification among others.

Students planning to transfer to a college or university should check with a Collin academic advisor prior to beginning the program.

Many of the CPMT, ITCC, ITMT, ITNW, ITSC, and ITSY courses are offered in eight-week express sessions.

AAS – Computer Networking
Integrated Networking Technologies Track (LAN / WAN focus)
60 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials
ITNW	1370	Cloud+ Computing Essentials
GEN ED		Mathematics course

Second Semester

ITNW	1351	Fundamentals of Wireless LANS
ITCC*	2312	CCNA 3: Scaling Networks *Preferred elective; see other options**
ITSC	1316	Linux Installation and Configuration
ITCC*	2313	CCNA 4: Connecting Networks *Preferred elective; see other options**
ITCC	2341	CCNA Security
or		
ITSY	1300	Fundamentals of Information Security (Security +)

SECOND YEAR
First Semester

ITSY	2300	Operating System Security
ENGL	1301	Composition I
ITMT	1373	Networking with Windows Server 2016
SPCH	1321	Business and Professional Communication
ITMT	1372	Installation, Storage and Computing with Windows Server 2016

Second Semester

ITNW	2373	Information Storage Management (EMC)
ITNW	2375	VmWare vSphere: Installation, Configuration and Management
ITNW	2376	Advanced Topics in Computer Systems Networking and Collaborative Technologies (Capstone)
GEN ED		Humanities / Fine Arts course
GEN ED		Social / Behavioral Sciences Course

* **Electives** (6 credit hours)

CPMT	1305	IT Essentials I: PC Hardware and Software *Recommended for students with limited IT*
ITCC	2312	CCNA 3: Scaling Networks *Recommended with ITCC 2313*
ITCC	2313	CCNA 4: Connecting Networks *Recommended with ITCC 2312*
ITSC	1342	Shell Programming – Scripting *New option to meet industry demand*

Any ITCC, ITMT, ITNW, or ITSY course not listed above.

Note: ITCC 2312 (CCNA 3) and ITCC 2313 (CCNA 4) – or the CCNA professional certification – are prerequisites for the CCNP courses in the concurrent or postgraduate Enhanced Skills Certificate, but are not part of the Integrated Technologies degree track unless they are selected as electives.

AAS – Computer Networking
Infrastructure Track (Cisco focus)
60 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials
ITNW	1351	Fundamentals of Wireless LANS
GEN ED		Mathematics course

Second Semester

ENGL	1301	Composition I
ITCC	2341	CCNA Security
ITCC	2312	CCNA 3: Scaling Networks
ITCC	2313	CCNA 4: Connecting Networks
ELECTIVE *		

Third Semester

GEN ED	Social / Behavioral Sciences course
GEN ED	Humanities / Fine Arts course

SECOND YEAR

First Semester

ITCC	2354	CCNP R&S ROUTE
ITCC	2355	CCNP R&S SWITCH
ITMT	1372	Installation, Storage and Computing with Windows Server 2016
ITSY	2300	Operating System Security

Second Semester

ITCC	2356	CCNP R&S TSHOOT (Capstone)
SPCH	1321	Business and Professional Communication
ITMT	1373	Networking with Windows Server 2016
ELECTIVE *		

*** Electives** (6 credit hours)

CPMT	1305	IT Essentials I: PC Hardware and Software *Recommended for students with limited IT*
ITSC	1342	Shell Programming – Scripting *New option to meet industry demand*

Any ITCC, ITMT, ITNW or ITSY course not listed above.

Note: ITCC 2312 (CCNA 3) and ITCC 2313 (CCNA 4) – or the CCNA professional certification – are prerequisites for the CCNP.

AAS – Computer Networking

Systems Track (Microsoft focus)

60 Credit Hours

FIRST YEAR

First Semester

ITNW	1358	Network+
ITMT	1371	Configuring and Supporting Microsoft Windows 10 (70-698)
ITMT	1372	Installation, Storage and Computing with Windows Server 2016
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials

Second Semester

ITMT	1373	Networking with Windows Server 2016
ITMT	1374	Identity with Windows Server 2016
ITCC*	2312	CCNA 3: Scaling Networks *Preferred elective; see other options**
ITSY	1300	Fundamentals of Information Security (Security +)
ITCC*	2313	CCNA 4: Connecting Networks *Preferred elective; see other options**

Third Semester

GEN ED		Social / Behavioral Sciences course
ENGL	1301	Composition I

SECOND YEAR

First Semester

GEN ED		Mathematics course
ITSC	1316	Linux Installation and Configuration
ITSY	2300	Operating System Security
SPCH	1321	Business and Professional Communication

Second Semester

ITMT	2305	Designing and Implementing a Server Infrastructure
ITMT	2304	Implementing and Advanced Server Infrastructure (Capstone)
GEN ED		Humanities / Fine Arts course
ELECTIVE *		
ELECTIVE *		
ELECTIVE *		

*** Electives** (9 credit hours)

CPMT	1305	IT Essentials I: PC Hardware and Software *Recommended for students with limited IT*
ITCC	2312	CCNA 3: Scaling Networks *Recommended with ITCC 2313*
ITCC	2313	CCNA 4: Connecting Networks *Recommended with ITCC 2312*
ITSC	1342	Shell Programming – Scripting *New course to meet industry demand*
ITNW	1351	Fundamentals of Wireless LANS *Highly Recommended*
ITCC	2341	CCNA Security *Highly Recommended*

Any ITCC, ITMT, ITNW, or ITSY course not listed above.

Note: ITCC 2312 (CCNA 3) and ITCC 2313 (CCNA 4) – or the CCNA professional certification – are prerequisites for the CCNP.

OSA
– Shared by all tracks
Entry Level Network Support
9 credit hours

CPMT	1305	IT Essentials I: PC Hardware and Software
ITNW	1358	Network+
ITSY	1300	Fundamentals of Information Security (Security+)

Integrated Networking Technologies Track (LAN / WAN focus)

Certificate Level 1
– Integrated NetworkingTechnologies Track

Integrated Networking Cloud Technician
18 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials

Second Semester

ITSY	2300	Operating System Security
ITNW	1351	Fundamentals of Wireless LANS (Capstone)
ITNW	1370	Cloud+ Computing Essentials

Certificate Level 1
– Integrated NetworkingTechnologies Track

Integrated Networking Virtualization and Storage Technician
18 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITNW	1370	Cloud+ Computing Essentials
ITMT	1372	Installation, Storage and Computing with Windows Server 2016

Second Semester

ITMT	1373	Networking with Windows Server 2016
ITNW	2373	Information Storage Management (EMC)
ITNW	2375	VmWare vSphere: Installation, Configuration and Management (Capstone)

Certificate Level 2
– Integrated Networking Technologies Track

Integrated Networking Administrator
45 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials
ITNW	1370	Cloud+ Computing Essentials

Second Semester

ITSY	2300	Operating System Security
ITMT	1372	Installation, Storage and Computing with Windows Server 2016
ITCC*	2312	CCNA 3: Scaling Networks *Preferred elective; see other options**
ITCC*	2313	CCNA 4: Connecting Networks *Preferred elective; see other options**

SECOND YEAR
First Semester

ITNW	1351	Fundamentals of Wireless LANS
ITSC	1316	Linux Installation and Configuration
ITMT	1373	Networking with Windows Server 2016
ITCC	2341	CCNA Security
or		
ITSY	1300	Fundamentals of Information Security (Security +)

Second Semester

ITNW	2373	Information Storage Management (EMC)
ITNW	2375	VmWare vSphere: Installation, Configuration and Management
ITNW	2376	Advanced Topics in Computer Systems Networking and Collaborative Technologies (Capstone)

*** <u>Electives</u>** (6 credit hours)

CPMT	1305	IT Essentials I: PC Hardware And Software *Recommended for students with limited IT*

Certificate Level 2
– Integrated Networking Technologies Track

Integrated Networking Administrator (cont'd)

*** <u>Electives</u> (continued)**

ITCC	2312	CCNA 3: Scaling Networks *Recommended with ITCC 2313*
ITCC	2313	CCNA 4: Connecting Networks *Recommended with ITCC 2312*
ITSC	1342	Shell Programming – Scripting New option to meet industry demand
ITCC	2341	CCNA Security Highly Recommended

Any ITCC, ITMT, ITNW, or ITSY course not listed above.

Note: ITCC 2312 (CCNA 3) and ITCC 2313 (CCNA 4) – or the CCNA professional certification – are prerequisites for the CCNP courses in the concurrent or postgraduate Enhanced Skills Certificate, but are not part of the Integrated Technologies degree track unless they are selected as electives.

Certificate Level 3
– Shared by Integrated Networking Technologies Track and Systems Track

Networking Systems Professional (CCNP)

9 Credit Hours

FIRST YEAR
First Semester

ITCC	2354	CCNP R&S ROUTE
ITCC	2355	CCNP R&S SWITCH
ITCC	2356	CCNP R&S TSHOOT

Note: CCNA 3 and CCNA 4 – or the professional certification – are prerequisites for the CCNP courses but are not part of the degree tracks unless they are selected as electives.

Infrastructure Track (Cisco focus)

Certificate Level 1
– Infrastructure Track

Infrastructure Technician (CCNA)
18 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials

Second Semester

ITCC	2341	CCNA Security
ITCC	2312	CCNA 3: Scaling Networks (Capstone)
ITCC	2313	CCNA 4: Connecting Networks

Certificate Level 1
– Infrastructure Track

Wireless Infrastructure Technician
18 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials

Second Semester

ITNW	1351	Fundamentals of Wireless LANS
ITCC	2341	CCNA Security
ITSY	2300	Operating System Security

Certificate Level 2
– Infrastructure Track

Infrastructure Administrator
45 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITCC	1314	CCNA 1: Introduction to Networks
ITCC	1340	CCNA 2: Routing and Switching Essentials
ITNW	1351	Fundamentals of Wireless LANS

Second Semester

ITCC	2341	CCNA Security
ITCC	2312	CCNA 3: Scaling Networks
ITCC	2313	CCNA 4: Connecting Networks

ELECTIVE *

SECOND YEAR
First Semester

ITCC	2354	CCNP R&S ROUTE
ITCC	2355	CCNP R&S SWITCH
ITMT	1372	Installation, Storage and Computing with Windows Server 2016
ITSY	2300	Operating System Security

Second Semester

ITCC	2356	CCNP R&S TSHOOT (Capstone)
ITMT	1373	Networking with Windows Server 2016

ELECTIVE *

*** <u>Electives</u>** (6 credit hours)

CPMT	1305	IT Essentials I: PC Hardware and Software *Recommended for students with limited IT*
ITSC	1342	Shell Programming – Scripting *New option to meet industry demand*
ITCC	2341	CCNA Security *Highly Recommended*

Any ITCC, ITMT, ITNW, or ITSY course not listed above.

Systems Track (Microsoft focus)

Certificate Level 1
– Systems Track
Systems Software Technician (MCSA)
18 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITMT	1371	Configuring and Supporting Microsoft Windows 10 (70-698)
ITMT	1372	Installation, Storage and Computing with Windows Server 2016

Second Semester

ITMT	1373	Networking with Windows Server 2016
ITMT	1374	Identity with Windows Server 2016 (Capstone)
ITSY	1300	Fundamentals of Information Security (Security +)

Certificate Level 1
– Systems Track
Systems Technician
24 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITMT	1371	Configuring and Supporting Microsoft Windows 10 (70-698)
ITMT	1372	Installation, Storage and Computing with Windows Server 2016
ITCC	1314	CCNA 1: Introduction to Networks

Second Semester

ITCC	1340	CCNA 2: Routing and Switching Essentials
ITMT	1373	Networking with Windows Server 2016
ITMT	1374	Identity with Windows Server 2016 (Capstone)
ITSY	1300	Fundamentals of Information Security (Security +)

Certificate Level 2
– Systems Track
Systems Administrator
45 Credit Hours

FIRST YEAR
First Semester

ITNW	1358	Network+
ITMT	1371	Configuring and Supporting Microsoft Windows 10 (70-698)
ITMT	1372	Installation, Storage and Computing with Windows Server 2016
ITCC	1314	CCNA 1: Introduction to Networks

Second Semester

ITCC	1340	CCNA 2: Routing and Switching Essentials
ITCC*	2312	CCNA 3: Scaling Networks *Preferred elective; see other options**
ITMT	1373	Networking with Windows Server 2016
ITSY	1300	Fundamentals of Information Security (Security +)

SECOND YEAR
First Semester

ITCC*	2313	CCNA 4: Connecting Networks *Preferred elective; see other options**
ITMT	1374	Identity with Windows Server 2016
ITSC	1316	Linux Installation and Configuration

Second Semester

ITSY	2300	Operating System Security
ITMT	2305	Designing and Implementing a Server Infrastructure
ITMT	2304	Implementing and Advanced Server Infrastructure (Capstone)
ELECTIVE *		

*** <u>Electives</u>** (6 credit hours)

CPMT	1305	IT Essentials I: PC Hardware and Software *Recommended for students with limited IT*
ITCC	2312	CCNA 3: Scaling Networks *Recommended with ITCC 2313*
ITCC	2313	CCNA 4: Connecting Networks *Recommended with ITCC 2312*

*** <u>Electives</u>** (cont'd)

ITSC	1342	Shell Programming – Scripting *New option to meet industry demand*
ITNW	1351	Fundamentals of Wireless LANS *Highly Recommended*
ITCC	2341	CCNA Security *Highly Recommended*

Any ITCC, ITMT, ITNW, or ITSY course not listed above.

Note: ITCC 2312 (CCNA 3) and ITCC 2313 (CCNA 4) – or the CCNA professional certification – are prerequisites for the CCNP courses in the concurrent or postgraduate Enhanced Skills Certificate, but are not part of the Systems degree track unless they are selected as electives.

Certificate Level 3
– Shared by Integrated Technologies Track and Systems Track

Networking Systems Professional (CCNP)
9 Credit Hours

FIRST YEAR
First Semester

ITCC	2354	CCNP R&S ROUTE
ITCC	2355	CCNP R&S SWITCH
ITCC	2356	CCNP R&S TSHOOT

Note: CCNA 3 and CCNA 4 – or the professional certification – are prerequisites for the CCNP courses but are not part of the Systems degree track unless they are selected as electives.