

# CYBER SECURITY & NETWORK ADMINISTRATION, B.A.T.

The **Bachelor of Applied Technology in Cyber Security and Network Administration** builds on our Computer and Information Technology AAS degree. Students will be provided practical knowledge, analytical skills, and in-depth experiences to achieve necessary professional certifications, build network infrastructure, maintain existing networks, as well as secure systems from deviant actors. With this skill set, students have an array of technology-focused careers ahead of them.

WVUP offers students the opportunity to gain work experience while completing their associate in Computer Information Technology through a state-funded program called Learn and Earn. The Learn and Earn program creates partnerships between industry and community and technical colleges by allowing students hands-on learning experience, and employers to train ideal future employees. Local businesses that are partnered with WVUP for the learn and earn CIT program are Chemours, iTech, Ntiva, Westbrook Health Services, Matheny Motor Truck Company, Pickering Associates and Wood County Schools.

For more information on all Learn and Earn programs, click here (<https://www.wvup.edu/learn-and-earn/>).

## Milestone Course

These courses are the keys to graduation. Courses should be taken in the recommended semesters to stay on time for completion.

## Career Planning

- IT Professional
- Network Administrator
- Systems Technician

## Capstone Course

A semester long networking project that must be taken in the graduation semester.

A "C" or better must be earned in CIT 460 INTERDISCIPLINARY PROJECT.

Students should average 15 credit hours per semester, or 30 per year, to graduate on time.

### Total Degree Credits: 120

Course	Title	Hours
<b>Semester 1</b>		
COLL 101	ORIENTATION TO COLLEGE	1
CIT 101	PC MGMT & MAINTENANCE <sup>1</sup>	5
CIT 105	INTRODUCTION TO NETWORKS <sup>2</sup>	5
Writing and Rhetoric ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#wr">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#wr</a> ) Elective		3
MATH 125	TECHNICAL MATHEMATICS	3
or MATH 126	or ~COLLEGE ALGEBRA	
or MATH 128	or ~COLLEGE TRIGONOMETRY	
or MATH 141	or ~FINITE MATH	
or MATH 150	or INTRODUCTION TO CALCULUS	
or MATH 155	or ~CALCULUS 1	
or MATH 156	or ~CALCULUS 2	
<b>Hours</b>		<b>17</b>
<b>Semester 2</b>		
CIT 130	PRIN OF INFORMATION SYSTEMS	3
People and Their Worlds ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw</a> ) Elective		3
CIT 106	ROUTING & SWITCHING ESSENTIALS	5
CIT 114	WINDOWS OPERATING SYSTEMS	3
<b>Hours</b>		<b>14</b>
<b>Semester 3</b>		
CS 121	INTRODUCTION TO PROGRAMMING	4
CIT 211	NETWORK INFRASTRUCTURE (MCP)	3
CIT 205	ENTERPRISE NETWORKS & SECURITY	4
Scientific Inquiry ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#si">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#si</a> ) (Phys 101 preferred)		4
<b>Hours</b>		<b>15</b>
<b>Semester 4</b>		
Human Communication and Interaction ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#hci">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#hci</a> ) Elective		3
SEC 101	SECURITY FUNDAMENTALS	3
CIT 240	INTRODUCTION TO LINUX	3

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CIT 260	CAPSTONE PROJECT <sup>6</sup>	3
Technical Elective <sup>3</sup>		2
<b>Hours</b>		<b>14</b>
<b>Semester 5</b>		
SEC 300	INTRO TO SECURITY	3
CIT 305	ADVANCED ROUTING <sup>4</sup>	5
STEM 300	ETHICS AND TECHNOLOGY	3
Upper Level Technical Elective <sup>5</sup>		2
<b>Hours</b>		<b>13</b>
<b>Semester 6</b>		
CIT 340 or CIT 320	ADVANCED LINUX NETWORKING or BLDG A VIRTUAL INFRASTRUCTURE	3 - 4
Writing and Rhetoric ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#wr">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#wr</a> ) Elective		3
CIT 405	MULTI-LAYER SWITCHED NETWORKS <sup>4</sup>	5
SEC 430 or SEC 351	OPERATING SYSTEM SECURITY or DEFENSES & COUNTERMEASURES	3
MATH 318	DISCRETE MATHEMATICS	3
<b>Hours</b>		<b>17-18</b>
<b>Semester 7</b>		
STEM 420	PROJECT MANAGEMENT	3
CIT 406 or SEC 350	ADV NETWORK TROUBLESHOOTING or NETWORK SECURITY	5
MATH 211	~STATISTICS	3
Select one of the following:		3
Aesthetics, Creativity, and Appreciation ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#aca">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#aca</a> )		
People and Their Worlds ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw</a> )		
<b>Hours</b>		<b>14</b>
<b>Semester 8</b>		
SEC 351 or SEC 430	DEFENSES & COUNTERMEASURES or OPERATING SYSTEM SECURITY	3
Select two of the following:		6
People and Their Worlds ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw</a> ) Elective		
Aesthetics, Creativity, and Appreciation ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#aca">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#aca</a> ) Elective		
CIT 460	INTERDISCIPLINARY PROJECT <sup>6</sup>	3
Scientific Inquiry ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#si">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#si</a> ) Elective (Phys 102 preferred)		4
<b>Hours</b>		<b>16</b>
<b>Total Hours</b>		<b>120-121</b>

<sup>1</sup> CompTIAA+

<sup>2</sup> CISCO 1

<sup>3</sup> Any non-required CIT, CS, SEC, DRAF, or ELEC course

<sup>4</sup> Milestone course

<sup>5</sup> Any 300-400 level CIT, CS, or SEC course, as well as ACCT 310, DRAF 314, GBUS 300, GBUS 304 or GBUS 306.

<sup>6</sup> Capstone course

**Degree requires a total of 120 credit hours. [ Core Course Credit Hours : 36 ]**

Code	Title	Hours
<b>Core Courses</b>		
COLL 101	ORIENTATION TO COLLEGE <sup>1</sup>	1
Writing and Rhetoric ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#wr">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#wr</a> )		6
Quantitative Reasoning ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#qr">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#qr</a> ) Elective - (MATH 125 or higher is required)		3
Quantitative Reasoning ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#qr">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#qr</a> ) Elective - (MATH 211 required)		3
Scientific Inquiry ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#si">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#si</a> )		8
Aesthetics, Creativity, and Appreciation ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#aca">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#aca</a> )		6
Human Communication and Interaction ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#hci">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#hci</a> )		3
People and Their Worlds ( <a href="https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw">https://wvup-public.courseleaf.com/programs-study/general-education-mission/#ptw</a> )		6
<b>Program Courses</b>		
CIT 101	PC MGMT & MAINTENANCE	5

CIT 105	INTRODUCTION TO NETWORKS	5
CIT 130	PRIN OF INFORMATION SYSTEMS	3
CIT 106	ROUTING & SWITCHING ESSENTIALS	5
CIT 114	WINDOWS OPERATING SYSTEMS	3
CS 121	INTRODUCTION TO PROGRAMMING	4
CIT 211	NETWORK INFRASTRUCTURE (MCP)	3
CIT 205	ENTERPRISE NETWORKS & SECURITY	4
SEC 101	SECURITY FUNDAMENTALS	3
CIT 240	INTRODUCTION TO LINUX	3
100/200 Technical Elective		2
CIT 260	CAPSTONE PROJECT	3
SEC 300	INTRO TO SECURITY	3
CIT 305	ADVANCED ROUTING	5
STEM 300	ETHICS AND TECHNOLOGY	3
CIT 405	MULTI-LAYER SWITCHED NETWORKS	5
MATH 318	DISCRETE MATHEMATICS	3
SEC 430	OPERATING SYSTEM SECURITY	3
SEC 351	DEFENSES & COUNTERMEASURES	3
STEM 420	PROJECT MANAGEMENT	3
CIT 406	ADV NETWORK TROUBLESHOOTING	5
or SEC 350	NETWORK SECURITY	
CIT 320	BLDG A VIRTUAL INFRASTRUCTURE	3 - 4
or CIT 340	ADVANCED LINUX NETWORKING	
300/400 Upper Level Technical Elective		2
CIT 460	INTERDISCIPLINARY PROJECT	3
<b>Total Hours</b>		<b>120-121</b>

<sup>1</sup> Institutional Graduation Requirement.