

CY12 Cybersecurity (version 201912) - Diploma

Program Information

<i>Program Name</i> Cybersecurity	<i>Non-Occupational Program</i> No	<i>Program Development</i> Standard
<i>Program Version</i> 201912	<i>Program Award Level</i> Diploma	<i>Program Credit Hours</i> 46
<i>Program Length</i> 3 Terms	<i>PAS Program Group</i> 0360 Cyber and Related	<i>CIP Code</i> 111003 Comp + Info Sys Security
<i>SOC Code</i> 151212 Information Security Analysts		

Justification

Program Description

The Cybersecurity diploma program is a sequence of courses designed to provide students with an understanding of the concepts, principles, and techniques required in computer information processing. Graduates are to be competent in the basic skills areas of English and mathematics, as well as in the technical areas of computer terminology and concepts, computer networking, and network security. Program graduates are qualified for employment as Computer Network Security Specialists, Cybersecurity Specialists or Information Security Analysts.

Occupational Trends

Employment of information security analysts is projected to grow 28 percent from 2019 to 2029, much faster than the average for all occupations. Employment of information security analysts is projected to grow 56 percent in computer systems design and related services from 2016 to 2026. The increasing adoption of cloud services by small and medium-sized businesses and a rise in cybersecurity threats will create demand for managed security services providers in this industry.

Education Programs

Typical educational programs include information technology, computer science, information assurance, or programming,

Actual Job/Career

Information security analysts plan and carry out security measures to protect an organization's computer networks and systems. Their responsibilities are continually expanding as the number of cyberattacks increases. IT security analysts are heavily involved with creating their organization's disaster recovery plan, a procedure that IT employees follow in case of emergency. These plans allow for the continued operation of an organization's IT department. The recovery plan includes preventive measures such as regularly copying and transferring data to an offsite location. It also involves plans to restore proper IT functioning after a disaster. Analysts continually test the steps in their recovery plans.

Employment Trends

Salary Trends

<i>Hourly Salary</i>	\$32.72
<i>Annual Salary</i>	\$68,057.60

Salary Trend Details

Occupational Analysis

Duty Order Duty Description

1 Encrypt data transmissions and erect firewalls to conceal confidential information as it is being transmitted and to keep out tainted digital transfers.

<i>Task Order</i>	<i>Task Description</i>
1	Demonstrate how to configure firewall
2	Prepare a plan to detect intruders
3	Perform information security guidelines

2 Develop plans to safeguard computer files against accidental or unauthorized modification, destruction, or disclosure and to meet emergency data processing needs.

<i>Task Order</i>	<i>Task Description</i>
1	Demonstrate knowledge of legal and ethical issues in information security
2	Develop an Information Security Policy
3	Develop and Acceptable Use Policy

3 Monitor use of data files and regulate access to safeguard information in computer files.

<i>Task Order</i>	<i>Task Description</i>
1	Demonstrate file system utilization
2	Perform problem solving process
3	Demonstrate fundamentals of structured programming

4 Train users and promote security awareness to ensure system security and to improve server and network efficiency.

<i>Task Order</i>	<i>Task Description</i>
1	Demonstrate people skills
2	Demonstrate knowledge necessary to manage secure information transferred over computer networks

5 Coordinate implementation of computer system plan with establishment personnel and outside vendors.

<i>Task Order</i>	<i>Task Description</i>
1	Demonstrate network standards
2	Demonstrate knowledge of local, state and federal guidelines

Program Outcomes

<i>Order</i>	<i>Description</i>
1	Ability to plan, coordinate and implement information security.
2	Ability to install security software, monitor for and respond to security breaches.
3	Ability to prioritize tasks and work cooperative within a team.
4	Highly developed written and verbal and online communication skills.
5	Good judgment, problem solving and analytical skills.

Curriculum

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Name	Relation	Lect Credit Hrs	Lab Credit Hrs	Total Credit Hrs	Lect Cont Hrs	Regu lar Lab Type	Reg. Lab Cont Hrs	Othe r Lab Type	Oth. Lab Cont Hrs	Total Cont Hrs	Smst Hrs
Basic Skills Courses	AND	-	-	-	-		-		-	-	8
Select 1 of the 2 English courses - 3 hrs.	OR	-	-	-	-		-		-	-	3

<u>ENGL 1010 - Fundamentals of English I (201003) 3 hrs</u>	NA	3	0	3	3		0	0	3	3	
<u>ENGL 1005 - Applied Technical Communication (202014) 3 hrs</u>	NA	3	0	3	3		0	0	3	3	
Select 1 of the 2 Math courses - 3 hrs.	OR	-	-	-	-		-	-	-	3	
<u>MATH 1012 - Foundations of Mathematics (201312) 3 hrs</u>	NA	3	0	3	3		0	0	3	3	
<u>MATH 1005 - Applied Technical Mathematics (202014) 3 hrs</u>	NA	3	0	3	3		0	0	3	3	
<u>EMPL 1000 - Interpersonal Relations and Professional Development (202312) 2 hrs</u>	AND	2	0	2	2		0	0	2	2	
Occupational Courses	AND	-	-	-	-		-	-	-	38	
<u>CIST 1001 - Computer Concepts (201216) 4 hrs</u>	AND	2	2	4	2	Lab	4		0	6	4
<u>CIST 1122 - Hardware Installation and Maintenance (201003) 4 hrs</u>	AND	2	2	4	2	Lab	2	Practicum	3	7	4
Select one of the following	OR	-	-	-	-		-	-	-	3	
<u>COLL 1010 - College and Career Success Skills (201512) 3 hrs</u>	OR	2	1	3	2	Lab	0.467	Practicum	2.3	4.767	3
<u>COMP 1000 - Introduction to Computer Literacy (201712) 3 hrs</u>	OR	1.667	1.333	3	1.667	Lab	2.667		0	4.334	3
Introductory-Level Networking Class	OR	-	-	-	-		-	-	-	4	
<u>CIST 1401 - Computer Networking Fundamentals (201003) 4 hrs</u>	OR	2	2	4	2	Lab	4		0	6	4
<u>CIST 2451 - Introduction to Networks - CISCO (201412) 4 hrs</u>	AND	2	2	4	2	Inter nship	4		0	6	4
<u>CIST 1601 - Information Security Fundamentals (201003) 3 hrs</u>	AND	2	1	3	2	Lab	2		0	4	3
<u>CIST 2601 - Implementing Operating Systems Security (201003) 4 hrs</u>	AND	2	2	4	2	Lab	4		0	6	4
<u>CIST 2602 - Network Security (201003) 4 hrs</u>	AND	2	2	4	2	Lab	4		0	6	4
<u>CIST 2612 - Computer Forensics (201003) 4 hrs</u>	AND	2	2	4	2	Lab	4		0	6	4
CIS Networking Elective	AND	-	-	-	-		-	-	-	4	
CIS Networking Elective	AND	-	-	-	-		-	-	-	4	

Total Credit Hours: 46

External Standards

Order Description

Admissions Requirements

<i>Minimum Test Scores</i>	
Accuplacer Reading Comp.	55
Accuplacer Sentence Skills	60
Accuplacer Arithmetic	34
Accuplacer Elementary Algebra	N/A

Minimum Required Age

NA

High School Diploma or GED Required

For Admission: Yes
For Graduation: Yes

Other Admission Conditions

Program Faculty/Administrative Requirements

<i>Order</i>	<i>Description</i>	<i>Type</i>	<i>Quantity</i>
1	Instructor	Full time	1
2	Adjunct	Part time	1

Other Specific Staff Resources

Program Resources/Equipment/Facilities

Application Server, Computer, Configuration Management Tools, Internet, Modeling Tools, Software, Telephone and Web Server, Computer Lab Computer Software