

# CYBERSECURITY, ADVANCED CERTIFICATE



College(s): DA, KK, OH, WR

Program Code: 0432

The Cybersecurity Advanced Certificate program provides knowledge and skill set for students pursuing career opportunities in cybersecurity.

With a hands-on approach to learning in this program, students acquire essential to cybersecurity technical knowledge relating to using and administering network devices and network operating systems, practice ethical hacking, and engage in information security systems analysis. Students also learn to script and code to monitor, protect against, contain, respond to and recover from cyberattacks.



## Program Requirements

Code	Title	Hours
<b>Required Program Core</b>		
CIS 103	Fundamentals of Programming	3
CIS 116	Operating System I	3
CIS 255	Operating Systems II	3
COMPSFI 101	Networking Essentials	3
or NET TEC 121 Internetworking I		
COMPSFI 102	Information Security Essentials	3
COMPSFI 202	Cybercrime and Incident Response	3
COMPSFI 212	Scripting for Cybersecurity	3
COMPSFI 213	Ethical Hacking	3
NET TEC 122	Internetworking II	3
or NET TEC 240 Operating Systems/Server I		

### Program Electives

Select a minimum of 3 credit hours of program electives (p. 1)	3
<b>Total Hours</b>	<b>30</b>

### Program Electives

Code	Title	Hours
BUSINES 111	Introduction To Business	3
CIS 111	Computer Operations	3
CIS 142	C++ Object Oriented Programming I	3
CIS 144	Java Object Oriented Programming I	3
CIS 181	Web Development I/Basic Web Technologies	3
CIS 182	Web Development II/Client Side Scripting	3
CIS 242	C++ Object Oriented Programming II	3
CIS 244	Java Object Oriented Programming II	3
CIS 281	Web Development III/Server Side Programming	3
CIS 260	Computer Information Systems Field Project	3
CIS 265	Computer Information Systems Internship	3
COMPSFI 101	Networking Essentials	3
COMPSFI 205	Cyber Forensics	3
COMPSFI 215	Information Security Domain	3
COMPSFI 231	Internetworking Security	3
NET TEC 121	Internetworking I	3
NET TEC 122	Internetworking II	3
NET TEC 240	Operating Systems/Server I	3

### Pathway

This is an **example course sequence** for students interested in Cybersecurity. It does not represent a contract, nor does it guarantee

course availability. If this pathway is followed as outlined, you will earn a Basic Certificate (BC) and Advanced Certificate (AC) in Cybersecurity.

## Semester-by-Semester Program Plan for Full-Time Students

All plans can be modified to fit the needs of part-time students by adding more semesters.

Semester 1		Hours
CIS 116	Operating System I	3
CIS 103	Fundamentals of Programming	3
COMPSFI 101 or NET TEC 121	Networking Essentials or Internetworking I	3
Hours		9
Semester 2		Hours
CIS 255	Operating Systems II	3
COMPSFI 102	Information Security Essentials	3
COMPSFI 202	Cybercrime and Incident Response	3
Hours		9
Semester 3		Hours
COMPSFI 212	Scripting for Cybersecurity	3
COMPSFI 213	Ethical Hacking	3
NET TEC 122 or NET TEC 240	Internetworking II or Operating Systems/Server I	3
Program Elective (p. 2)		3
Hours		12
Total Hours		30

### Program Electives

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BUSINES 111	Introduction To Business	3
CIS 111	Computer Operations	3
CIS 142	C++ Object Oriented Programming I	3
CIS 144	Java Object Oriented Programming I	3
CIS 181	Web Development I/Basic Web Technologies	3
CIS 182	Web Development II/Client Side Scripting	3
CIS 242	C++ Object Oriented Programming II	3
CIS 244	Java Object Oriented Programming II	3
CIS 281	Web Development III/Server Side Programming	3
CIS 260	Computer Information Systems Field Project	3
CIS 265	Computer Information Systems Internship	3
COMPSFI 101	Networking Essentials	3
COMPSFI 205	Cyber Forensics	3
COMPSFI 215	Information Security Domain	3
COMPSFI 231	Internetworking Security	3
NET TEC 121	Internetworking I	3
NET TEC 122	Internetworking II	3
NET TEC 240	Operating Systems/Server I	3

Choose your courses with your College Advisor.

## Careers

This program can prepare students for the jobs listed below. Click on each one to learn more, including average earnings, annual job openings, and how much education people in that field have. For additional guidance and resources on career options, current City Colleges students

and alumni can contact the Career Services Office (<https://www.ccc.edu/departments/Pages/Career-Services.aspx>).

## Information Security Analysts Job Description

Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. Assess system vulnerabilities for security risks and propose and implement risk mitigation strategies. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.

### Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

#### Annual Wages

Entry-Level 10 <sup>th</sup> Percentile	\$67,312
Median 50 <sup>th</sup> Percentile	\$113,413
Senior-Level 90 <sup>th</sup> Percentile	\$178,147

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$32
Median 50 <sup>th</sup> Percentile	\$55
Senior-Level 90 <sup>th</sup> Percentile	\$86

### Annual Job Openings

192 annual openings in Cook County

### National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	0.00%
A certificate	7.16%
Some college	2.01%
An Associate degree	12.87%
A Bachelor's degree	75.16%
A Master's or Professional degree	2.80%
A Doctoral degree or more	0.00%

77.96% continue their education beyond an associate degree