

CLOUD, SECURITY, AND SYSTEM ADMINISTRATION - ADVANCED TECHNICAL CERTIFICATE (ATC)

Explore More About This Program: <https://cwi.edu/program/cloud-security-and-system-administration>

Certificate Quick Facts

- **Instructional School:** Science, Technology, and Math
- **Department:** Information Technology
- **Program Code:** NADM.ATC
- **Program Type:** Career and Technical Education
- **Available Fully Online:** No
- **Eligible for Federal Financial Aid:** Yes

NOTE: Courses required for this program *may* have an additional fee; more information can be found on the [Special Course Fees](#) web page.

Certificate Requirements

Course	Course Title	Min Credits
General Education Requirements		
Select one of the following:		3
GEM 1 - Written Communication course		
GEM 2 - Oral Communication course		
GEM 3 - Mathematical Ways of Knowing course		3
GEM 6 - Social & Behavioral Ways of Knowing course		3
Major Requirements		
CSSA 141	Fundamentals of Windows Operating System	3
CSSA 143	Network Services	3
CSSA 145	Network Design and Security	3
CSSA 147	Network Fundamentals and Certification	3
CSSA 155	Network Server Management	4
CSSA 157	Linux System Administration	4
CSSA 159	Security	4
CSSA 261	Server Hybrid Infrastructure	4
CSSA 263	Server Hybrid Advanced Services	4
CSSA 266	Database Administration	4
CSSA 268	PowerShell and Certification	4
CSSA 264	Email Systems	4
CSSA 271	Virtualization Technologies	4
Minimum Credit Hours Required		57

Certificate Plan: Fall Start

The course sequence listed below is strongly recommended in order to complete your program requirements. Many Career and Technical Education (CTE) courses have prerequisites and/or corequisites that have been accounted for within this course sequence plan. Please register for your major requirements each semester as shown below using the Student Planning tool in myCWI. Consult your advisor for any questions regarding this plan.

NOTE: The required general education courses may be completed during any semester the student prefers, including summer semesters.

First Year

Fall		Credit Hours
CSSA 141	Fundamentals of Windows Operating System	3
CSSA 143	Network Services	3
CSSA 145	Network Design and Security	3
CSSA 147	Network Fundamentals and Certification	3
GEM 3 - Mathematical Ways of Knowing course		3
Total Semester Credit Hours		15

Spring

CSSA 155	Network Server Management	4
CSSA 157	Linux System Administration	4
CSSA 159	Security	4
Select one of the following:		3
<u>GEM 1 - Written Communication course</u>		
<u>GEM 2 - Oral Communication course</u>		

Total Semester Credit Hours	15
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Second Year**Fall**

CSSA 261	Server Hybrid Infrastructure	4
CSSA 263	Server Hybrid Advanced Services	4
CSSA 264	Email Systems	4
<u>GEM 6 - Social & Behavioral Ways of Knowing course</u>		3

Total Semester Credit Hours	15
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Spring

CSSA 266	Database Administration	4
CSSA 268	PowerShell and Certification	4
CSSA 271	Virtualization Technologies	4

Total Semester Credit Hours	12
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Minimum Credit Hours Required	57
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Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Install and configure a client operating system and demonstrate proficiency in file permissions, disk management, and peer-to-peer user and group management.
- Perform advanced subnetting with CIDR, create and document network addressing schemes, configure routers and switches for small to medium-sized networks, demonstrate the use of configuration tools, analyze data frames, test and troubleshoot network connectivity, and resolve any issues.
- Install and configure a server operating system, network services, directory services, network printing, and group policy objects.
- Install and configure a Linux operating system, network services within Linux, and file and folder security with Linux.
- Install and configure a secure network environment, identify common security threats, implement cryptography solutions, and install and configure firewalls for perimeter security.
- Install, configure, and troubleshoot domain controllers, directory services, and file services in an on-premises environment and cloud environment.
- Install, configure, maintain, and troubleshoot a secure email messaging system and client.
- Install, configure, maintain, and troubleshoot a database system.
- Install, configure, and manage a virtual environment using vSphere and Hyper-V to provide high availability.
- Exhibit competencies of Written or Oral Communication (GEM 1 or GEM 2), Mathematical Ways of Knowing (GEM 3), and Social and Behavioral Ways of Knowing (GEM 6).