NETWORK AND SYSTEMS ADMINISTRATION, ASSOCIATE IN APPLIED SCIENCE

COMPUTER AND INFORMATION TECHNOLOGY

Associate in Applied Science: AAS 3189
61-74 Credits
Program Contact
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Program Description

The Associate in Applied Science (AAS) in Network and Systems Administration program provides students with a solid, hands-on skill set of computer, networking, and internetworking systems technology principles and desktop support. Students gain an understanding of the interaction between microcomputer software and hardware, network and internetworking operating systems software and hardware, local area network administration and management, the use of troubleshooting techniques, troubleshooting hardware and software tools, as well as interpersonal/customer service skills. Students have the opportunity to specialize in specific information technology areas based on their interests and professional goals and leading to industry recognized certifications through an embedded Certificate of Completion (CCL) including, but not limited to, Desktop (Desktop Support, Computer System Configuration and Support, Computer System Configuration and Support, Network, Computer System Configuration and Support, Security, Computer System Configuration and Support, Linux), Cisco (Cisco Network CCNA, Cisco Network CCNP, Cisco Network CCNA Security), Linux (Red Hat Linux Engineer, Linux Associate, Red Hat Linux Administrator, Linux System Administration), Microsoft (Microsoft System Administration, Microsoft Desktop Associate), and VMware (VMware Network Administrator, VMware Foundations, VMware System Administrator). Graduates may pursue employment in a variety of information technology environments and/or transfer to a university.

Program Notes

Students must earn a grade of "C" or better in all courses within the program. Overall program minimum GPA = 2.00.

Courses within any of the following prefixes must be taken within five (5) years prior to completion of the program to be applied toward this award: AIM, BPC, CIS, CLD, CNT, CSC, ITS, and MST.

Students may receive credit for courses within the program based on current industry certifications.

++ indicates any suffixed course may be selected.

Program Requirements

Program Prerequisites: None

Required Courses

Code	Title	Credits	Semester
Required Courses			_____
BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3	_____
BPC270	A+ Exam Prep: Operating System Configuration and Support	3	_____
CIS102DA	Customer User Support	3	_____
CIS105	Survey of Computer Information Systems	3	_____
CIS126DL	Linux Operating System	3	_____
or CIS126RH	Red Hat System Administration I		_____
Select one of the following:		3-4	_____
CIS190	Introduction to Networking		_____
CNT140AB	Introduction to Networks [1]		_____
FYE101	Introduction to College, Career and Personal Success	1-3	_____
or FYE103	Exploration of College, Career and Personal Success		_____
Total Credits		**19-22**	_____

[1] CNT140AB Introduction to Networks is required for students on the Cisco emphasis

Specializations

12-24 Credits

Students must also select from one of the following areas of emphasis based on their career goals.

Specialization 1: Cisco System Administration (CCNA) and Security

Code	Title	Credits	Semester
CNT150AB	Switching, Routing, and Wireless Essentials	4	_____
CNT160AB	Enterprise Networking, Security, and Automation	4	_____

CNT202	Cisco Secure Firewall Appliance Configuration	4	_____
or CNT205	Cisco Certified Network Associate Security		_____
Total Credits		**12**	_____

Specialization 2: Cisco System Administration (CCNP)

Code	Title	Credits	Semester
CNT150AB	Switching, Routing, and Wireless Essentials	4	_____
CNT160AB	Enterprise Networking, Security, and Automation	4	_____
CNT240	Cisco Certified Network Professional: Enterprise Core	8	_____
or CNT240AA & CNT240AB	Cisco Certified Network Professional: Enterprise Core I and Cisco Certified Network Professional: Enterprise Core II		_____
CNT250	Cisco Certified Network Professional: Enterprise Advanced Routing and Services	8	_____
or CNT250AA & CNT250AB	Cisco Certified Network Professional: Enterprise Advanced Routing and Services I and Cisco Certified Network Professional: Enterprise Advanced Routing and Services II		_____
Total Credits		**24**	_____

Specialization 3: Linux System Administration

Code	Title	Credits	Semester
CIS238DL	Linux System Administration	3	_____
CIS239DL	Linux Shell Scripting	3	_____
CIS240DL	Linux Network Administration	3	_____
CIS275DL	Linux Capstone	3	_____
Total Credits		**12**	_____

Specialization 4: Red Hat Enterprise Linux Administration

Code	Title	Credits	Semester
CIS238RH	Red Hat System Administration II	3	_____
CIS239DL	Linux Shell Scripting	3	_____
CIS240RH	Red Hat System Administration III	3	_____
CIS271RH	Red Hat System Administration IV	3	_____
CIS275DL	Linux Capstone	3	_____
Total Credits		**15**	_____

Specialization 5: Microsoft System Administration

Code	Title	Credits	Semester
CIS121AH	Microsoft PowerShell/ Command Line Operations	3	_____
MST150	Any Microsoft Windows Operating System course	3	_____
MST155DC	Installation, Storage, and Compute with Windows Server	4	_____
MST157DC	Networking with Windows Server	4	_____
MST158DC	Identity Management with Windows Server 2016	4	_____
Total Credits		**18**	_____

Specialization 6: VMware Network Administrator

Code	Title	Credits	Semester
CIS189	Virtualization and IT Solutions for Digital Businesses	3	_____
CIS197	VMware ESXI Server Enterprise	3	_____
CIS198	VMware vSphere: Optimize and Scale	3	_____
CIS200	VMware NSX: Install, Configure, Manage	3	_____
Total Credits		**12**	_____

Restricted Electives

0-8 Credits

Students are to select enough Restricted Elective credits to meet a minimum of 60 credits not used to satisfy Required Courses or selected area of emphasis within the Required Courses. Consult with an Academic, Program, or Faculty Advisor to pick courses that align with your career goals.

Cisco Electives

Code	Title	Credits	Semester
CNT140AB	Introduction to Networks [1]	4	_____
CNT150AB	Switching, Routing, and Wireless Essentials	4	_____
CNT160AB	Enterprise Networking, Security, and Automation	4	_____
CNT171	CCNA Exam Prep	1	_____
CNT202	Cisco Secure Firewall Appliance Configuration	4	_____
or CNT205	Cisco Certified Network Associate Security		_____
CNT206	Cisco Certified Network Associate Wireless	4	_____

[1] CNT140AB Introduction to Networks is required for students on the Cisco emphasis

Linux Electives

Code	Title	Credits	Semester
CIS238DL	Linux System Administration	3	_____
CIS238RH	Red Hat System Administration II	3	_____
CIS239DL	Linux Shell Scripting	3	_____
CIS240DL	Linux Network Administration	3	_____
CIS240RH	Red Hat System Administration III	3	_____
CIS275DL	Linux Capstone	3	_____

Microsoft Electives

Code	Title	Credits	Semester
MST	Any MST Microsoft Technology Course		_____
CIS121AB	Microsoft Command Line Operations	1	_____
CIS121AH	Microsoft PowerShell/ Command Line Operations	3	_____

Security Electives

Code	Title	Credits	Semester
CIS270	Essentials of Network and Information Security	3	_____
CIS271DB	Information Security Essentials	3	_____
CIS272DB	Information Security Principles	3	_____
ITS110	Information Security Fundamentals	3	_____

VMware Electives

Code	Title	Credits	Semester
CIS189	Virtualization and IT Solutions for Digital Businesses	3	_____
CIS197	VMware ESXI Server Enterprise	3	_____
CIS198	VMware vSphere: Optimize and Scale	3	_____
CIS200	VMware NSX: Install, Configure, Manage	3	_____

Other Information Technology Electives

Code	Title	Credits	Semester
BPC171	Recycling Used Computer Technology	1	_____
CIS111	Ethics in Information Technology	3	_____
CIS124AA	Project Management Software: Level I	1	_____
CIS124BA	Project Management Software: Level II	1	_____
CIS156	Python Programming: Level I	3	_____
CIS190	Introduction to Networking	3	_____
CIS224	Project Management Microsoft Project for Windows	3	_____
CIS240	Local Area Network Planning and Design	3	_____

CIS250	Management of Information Systems	3	_____
CIS266	Network Integration Capstone	4	_____
CIS290	Computer Information Systems Internship	1-3	_____
CIS296	Cooperative Education	1-4	_____
CIS298	Special Projects	1-3	_____
ITS120	Legal, Ethical and Regulatory Issues	3	_____

General Education

Core and Distribution

Code	Title	Credits	Semester
Core			_____
First-Year Composition			_____
ENG101	First-Year Composition	3	_____
or ENG107	First-Year Composition for ESL		_____
Select one of the following:		3	_____
ENG102	First-Year Composition		_____
or ENG108	First-Year Composition for ESL		_____
ENG111	Technical and Professional Writing (does not count as an ENG Transfer option)		_____
Oral Communication			_____
Select one of the following:		3	_____
COM100	Introduction to Human Communication		_____
COM110	Interpersonal Communication		_____
COM225	Public Speaking (recommended for students transferring to Northern Arizona University)		_____
COM230	Small Group Communication		_____
Critical Reading			_____
Select one of the following:		0-3	_____
CRE101	College Critical Reading and Critical Thinking		_____
Or equivalent as indicated by assessment			_____
Mathematics			_____
Select one of the following:		3-6	_____
MAT140	College Mathematics		_____
MAT141	College Mathematics		_____
MAT142	College Mathematics		_____
MAT145	College Mathematics with Review		_____
MAT146	College Mathematics with Review		_____
Equivalent or higher level mathematics course in the Mathematical Applications (MA) area			_____
Distribution			_____
Humanities, Arts and Design			_____
Any approved general education course(s) from the Humanities, Arts and Design (HU) area		3	_____
Social and Behavioral Sciences			_____
Any approved general education course from the Social and Behavioral Sciences (SB) area		3	_____
Natural Sciences			_____
Any approved general education course from the Natural Sciences (SG) or (SQ) area		4	_____
Total Credits		**22-28**	_____