



Program Map

Local Area Network Systems – Security Administration Specialization

Degree: Associate of Applied Science (AAS)
Marketable Skills Award: MSA



COMPUTER SCIENCE & INFORMATION TECHNOLOGY

Program Description: This is an example course sequence for students interested in Local Area Network Systems - Security Administration Specialization. It does not represent a contract, nor does it guarantee course availability. If this pathway is followed as outlined, you will earn an Associate of Applied Science (AAS) degree in Local Area Network Systems - Security Administration Specialization.

The Security Administration Specialization is designed to prepare the student for employment in the areas of internet, network and operating system security. The curriculum focus is on providing skills in system security analysis, designing and creating secure systems, troubleshooting security problems via appropriate testing measures, conducting forensic documentation and the development, implementation and maintenance of an organizational security plan and policy. Due consideration is given to legal and ethical issues and current and emerging legal and technical issues.

Select courses can provide a **Computer Networking Marketable Skills Award**.

Use this **Program MAP** as an advising guide to choose courses with your advisor and track progress towards milestones and completion of program.

Contact:

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Department Website
sites.austincc.edu/cs

Pre-Degree Requirements

Program Specific	Reading and Writing Placement <i>Placements based on TSI</i>	Mathematics Placement <i>Placements based on TSI</i>
	<input type="checkbox"/> Basic Developmental Courses <input type="checkbox"/> ESOL Courses <input type="checkbox"/> INRW Courses	<input type="checkbox"/> MATD-0332 - Basic Math Skills <input type="checkbox"/> MATD-042x/032x – ALEKS Sequence <input type="checkbox"/> MATD-0385/0485 – Developing Mathematical Thinking <i>Not prerequisite for MATH-1314/1324</i> <input type="checkbox"/> MATD-0370 – Elementary Algebra <input type="checkbox"/> MATD-0390 – Intermediate Algebra <i>Take MATD-0370 and 0390 to prepare for MATH-1314/1324</i>

D: Degree

C1: Level 1 Certificate

C1*: Level 1 CDA Preparation Certificate

C2: Level 2 Certificate

MSA: Marketable Skills Award

SEMESTER-BY-SEMESTER PROGRAM PLAN FOR FULL-TIME STUDENTS

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

MSA	D	Semester 1	CR	Advising Notes
	●	EDUC 1100 - Effective Learning: Strategies for College Success	1	Required if student has less than 12 credit hours, but must have 60 total credit hours to graduate.
●	●	COSC 1301 – Introduction to Computing	3	
●	●	ITNW 1325 - Fundamentals of Networking Technologies	3	Prerequisite for ITNW 1325 – COSC 1301 (or corequisite) or instructional program approval.
●	●	ITSY 1300 - Fundamentals of Information Security	3	
	●	ENGL 2311 - Technical and Business Writing	3	
	●	MATH 1314 - College Algebra	3	OR choose MATH 1324 – Mathematics for Business and Economics. Prerequisite for MATH 1314 and MATH 1324 - MATD 0390 with a C or satisfactory score on the ACC Mathematics Assessment Test or completion of TSI requirements in mathematics.
●		IT or COSC Elective		Select from IT or COSC courses. ACHIEVEMENT: Marketable Skills Award
12	16		16	Program Semester Hours / Meet with your advisor

		Semester 2		
	●	ITNW 1351 - Fundamentals of Wireless LANs	3	Prerequisite for ITNW 1351 – ITNW 1325.
	●	ITNW 2321 - Networking with TCP/IP	3	Prerequisite for ITNW 2321 – ITNW 1325.
	●	ITNW 1354 - Implementing and Supporting Servers: Windows 2008	3	Prerequisite for ITNW 1354 – ITNW 1325.
	●	ITSC 1325 - Personal Computer Hardware	3	Prerequisite for ITSC 1325 – COSC 1301 and one semester of programming or instructional program approval.
	●	ITSC 1307 - UNIX Operating System I	3	Prerequisite for ITSC 1307 – One semester of programming or ITNW 1325.
	15		15	Program Semester Hours / Meet with your advisor
		Semester 3		
	●	ITSY 2330 - Intrusion Detection	3	Prerequisite for ITSY 2330 – ITSY 2300 and ITSY 2301.
	●	ITNW 2312 - Routers	3	Prerequisite for ITNW 2312 – ITNW 2321 or instructional program approval.
	●	ITSY 2301 - Firewalls and Network Security	3	Prerequisite for ITSY 2301 – ITNW 2321 and ITSY 1300.
	●	ITSY 2300 - Operating System Security	3	Prerequisite for ITSY 2300 – ITNW 2321 and ITSY 1300.
	●	Social & Behavioral Sciences Elective	3	GOVT 2305 – United State Government OR HIST 1302 – United State History II OR PSYC 2301 – Introduction to Psychology. Recommended but may select Social and Behavioral Sciences. Select from the appropriate section of the Core Curriculum Course List.
	15		15	Program Semester Hours / Meet with your advisor
		Semester 4		
	●	ITSY 2343 - Computer System Forensics	3	Prerequisite for ITSY 2343 – ITSY 2301.
	●	ITNW 2353 - Advanced Routing and Switching	3	Prerequisite for ITNW 2353 – ITNW 2312.
	●	ITSC 2264 - Practicum-- CIS, General	2	OR Advanced Computer Information Technology/Computer Science Elective (3-4).
	●	SPCH 1311 – Introduction to Speech Communications	3	OR SPCH 1315 – Public Speaking OR SPCH 1318 – Interpersonal Communication OR SPCH 1321 – Business and Professional Communication.
	●	Arts & Humanities Elective	3	PHIL 1301 - Introduction to Philosophy OR PHIL 2306 – Ethics OR ARTS 1301 – Introduction to the Visual Arts.
				ACHIEVEMENT: Associate of Applied Science Degree
	14		14	Program Semester Hours
12	60	Total Program Hours	60	

ELECTIVES

Computer Electives:

ITNW 1337 – Introduction to Internet
 ITSC 1309 – Integrated Software Applications
 ITSE 1301 – Web design Tools
 ITSW 1304 – Introduction to Spreadsheets
 ITSW 1307 – Introduction to Database: Access

Programming Elective I:

BCIS 2316 – Introduction to Java Programming
 COSC 1337 – Programming Fundamentals II
 GAME 1343 – Game and Simulation Programming I
 GAME 2341 – Game Scripting
 ITSE 1302 – Computer Programming: LabVIEW
 ITSE 1303 – Introduction to MySQL
 ITSE 1311 – Beginning Web Programming
 ITSE 1330 – Introduction to C# Programming
 ITSE 1391 – Special Topics in Computer Programming
 ITSE 2302 – Intermediate Web Programming
 ITSE 2305 – Windows Programming (Visual Basic .NET)
 ITSE 2309 – Database Programming: Oracle
 ITSE 2321 – Object-Oriented Programming (Java)

Programming Elective II:

COSC 2325 – Computer Organization and Machine Language
 COSC 2436 – Programming Fundamentals III: Data Structure
 GAME 1359 – Game and Simulation Programming II
 GAME 1394 – Special Topics in Animation, Interactive Technology, Video Graphics and Special Effects
 GAME 2342 – Game Development Using C++
 GAME 2344 – DirectX Programming: Introduction to 3D Graphics
 ITNW 2338 – Advanced Java Programming: Visual
 ITSC 2337 – UNIX Operating Systems II
 ITSE 1345 – Introduction to Oracle SQL and PL/SQL
 ITSE 1359 – Introduction to Scripting Languages; Python
 ITSE 1392 – Special Topics in Computer Programming
 ITSE 1394 – Special Topics in Computer Science
 ITSE 2317 – Java Programming (Intermediate)
 ITSE 2331 – Advanced C++ Programming
 ITSE 2343 – Advanced Windows Programming (C#)
 ITSE 2349 – Advanced Visual Basic Programming .NET
 ITSW 2337 – Advanced Database: MySQL

Computer Information Technology or advanced Computer Science courses:

COSC 2425 – Computer Organization and Machine Language – PC Assembly
 COSC 2436 – Programming Fundamentals III: Data Structure
 GAME 1394 – Special Topics in Animation, Interactive Technology, Video Graphics and Special Effects
 GAME 2302 – Mathematical Applications for Game Development
 GAME 2332 – Project Development
 GAME 2341 – Game Scripting
 GAME 2342 – Game Development Using C++
 GAME 2344 – DirectX Programming: Introduction to 3D Graphics
 ITNW 2338 – Advanced Java Programming: Visual
 ITSC 2335 – Application Problem Solving: Support
 ITSC 2337 – UNIX Operating Systems II
 ITSC 2339 – Personal Computer Help Desk
 ITSE 1345 – Introduction to Oracle SQL and PL/SQL
 ITSE 1392 – Special Topics in Computer Programming
 ITSE 1393 – Special Topics in Systems Analysis
 ITSE 1394 – Special Topics in Computer Science
 ITSE 2302 – Intermediate Web Programming
 ITSE 2305 – Windows Programming (Visual Basic .NET)
 ITSE 2317 – Java Programming (Intermediate)
 ITSE 2321 – Object-Oriented Programming (Java)
 ITSE 2331 – Advanced C++ Programming
 ITSE 2349 – Advanced Visual Basic Programming .NET
 ITSE 2356 – Oracle Database Administration
 ITSY 2300 – Operating System Security
 ITSY 2301 – Firewalls and Network Security
 ITSY 2330 – Intrusion Detection
 ITSY 2342 – Incident Response and Handling
 ITSY 2343 – Computer System Forensics
 ITSY 2359 – Security Assessment and Auditing

Career & Transfer Resources

ACC's Career & Transfer websites provide detailed, guided information on career exploration and transfer.

www.austincc.edu/career

www.austincc.edu/transfer

For further information regarding this specific program, please see the Career & Transfer Resources supplement provided in the next section of this Program Map.

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Career & Transfer Resources Updated 8/18/17

Career Information

Those working in this field install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. They also monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability.

Common Job Titles

Information Security Analysts, Computer Network Support Specialists, Computer Network Specialist, IT Consultant, Network Engineer, Network Specialist, Network Support Specialist, Network Technical Analyst, Network Technician, Personal Computer Network Analyst, Systems Specialist

Regional Labor Market Information

Information Security Analysts: New workers generally start around \$69,376. Normal pay for Information Security Analysts is \$99,966 per year, while highly experienced workers can earn as much as \$155,919. Over the last year, 428 companies have posted 3,420 jobs for Information Security Analysts. There are currently 608 Information Security Analysts that are employed in Austin-Round Rock, TX.

Source: <https://austincc.emsicc.com/careers/information-security-analyst>

Computer Network Support Specialists: New workers generally start around \$37,232. Normal pay for Computer Network Support Specialists is \$58,050 per year, while highly experienced workers can earn as much as \$90,483 in this region. Over the last year, 49 companies have posted 174 jobs for Computer Network Support Specialists. There are currently 2,683 Computer Network Support Specialists that are employed in Austin-Round Rock, TX.

Source: <https://austincc.emsicc.com/careers/computer-network-support-specialist>

Career and labor market research tools (see Quick Reference Guide at <http://www.austincc.edu/career>):

EMSI: <https://austincc.emsicc.com/>, Bureau of Labor Statistics: <http://www.bls.gov/ooh/>, O*NET: <https://www.onetonline.org/>

Career Resources: ACC's career services website provides information on career exploration and employment at <http://www.austincc.edu/career>. Students are encouraged to consult with their area of study advisor for additional career assistance. The above information is provided as a guide and reference tool for occupations related to this program. This is not a guarantee of job placement in any of these occupations after successful completion of an ACC program. The common job titles listed are representative titles and are provided for career research. These are not the only occupations possible in this area of study.

Transfer Information

The Associate of Applied Science in Local Area Network Systems – Security Administration is a workforce pathway that provides students with the skills that local employers need in the Information Technology field. Students with an intent to transfer and earn a bachelor's degree should consult with an advisor to determine requirements and selection of the appropriate program of study. A Bachelor of Applied Arts and Sciences (BAAS) is a degree option for students in AAS programs who want to transfer and complete a 4-year degree.

Transfer Guides: *The universities listed here do not constitute an ACC endorsement. Transfer course evaluations and determination of which courses will count toward a bachelor's degree are made by the receiving transfer institution.*

Texas State University: <http://www.owls.txstate.edu/undergraduate-degrees/applied-arts-sciences.html>

Concordia University Texas: <http://www.concordia.edu/academics/college-of-business-and-communication/baas-in-business.html>

Tarleton State University: <http://www.tarleton.edu/degrees/bachelors/baas-business/>

Texas A&M University - Central Texas: <https://www.tamuct.edu/degrees/undergraduate/business-management.html>

Texas Tech University: https://www.depts.ttu.edu/universitystudies/prospective_students/baas.php

Texas A&M University San Antonio: <http://www.tamusa.edu/collegeofartsandsciences/degreesmajors.html>

Additional Transfer Resources: ACC's transfer website provides information on additional colleges & universities:

<http://www.austincc.edu/transferguides>. Students are encouraged to consult with a faculty advisor, area of study advisor, and/or their chosen transfer institution to ensure courses taken at ACC will apply toward their bachelor's degree program.