



# COMPUTER SECURITY and NETWORKING

Curriculum Guide for Academic Year 2016-2017

## Table of Contents

- Associate in Science Degree, p. 1
- Certificate of Achievement, p. 2
- Certificates of Accomplishment, p. 2
  - Microsoft Windows Networking Technician, p. 2
  - Cyber Security, p. 2
  - Computer Hardware Technician, p. 3
  - Computer Network Technician, p. 3
  - UNIX Network Administrator, p. 3
- Career Opportunities, p. 3
- Program Mission and Outcomes, p. 3
- Legend, p. 3

Students planning to **transfer** to a four-year college or university should refer to the ASSIST web site at [www.assist.org](http://www.assist.org) and **consult a counselor** before beginning a program of study. Please call (562)938-4561 (LAC) or (562) 938-3920 (PCC) to schedule a counseling appointment. Students may also wish to visit the Transfer Center on either campus.

Program of study leading to: <b>Associate in Science (A.S.) Degree</b>				
<b>COMPUTER NETWORKING REQUIRED COURSES:</b>		<b>UNITS</b>	<b>In Progress</b>	<b>Completed Grade</b>
BCOM 15	Business Communications	3		
COSA 50	Introduction to IT Concepts & Applications	4		
COSN 5	Computer Hardware Fundamentals	4		
COSN 10	Networking Fundamentals	4		
COSN 205	UNIX/Linux Fundamentals	4		
COSN 225	Microsoft Windows Client	3		
COSS 271	Networking Security Fundamentals	3		
<b>Subtotal Units</b>		<b>25</b>		
<b>IN ADDITION, select TWO (2) courses from the following:</b>		<b>UNITS</b>	<b>In Progress</b>	<b>Completed Grade</b>
BCOM 222	Job Search Skills	3		
COSA 210	Intro to Project Management for IT	3		
COSN 200	Wireless and Mobile Devices	2		
COSN 210	Linux Server Administration	4		
COSN 215	Linux Networking and Security	4		
COSN 230	Microsoft Windows Server	4		
COSP 8	Visual BASIC Programming	4		
COSS 272	Computer Forensics and Investigation	3		
COSS 273	Ethical Hacking and Countermeasures	4		
† CS 11	Computer Programming/C++/I	4		
† CS 21	Java: Computer Science I	4		
<b>Subtotal Units</b>		<b>5-8</b>		
<b>TOTAL UNITS</b>		<b>30-33</b>		

For graduation with an **Associate in Science (A.S.) Degree with a major in Computer Security and Networking:**

- Minimum Unit Requirements:** Any course that appears on a curriculum guide and the General Education Pattern (Plan A) may fulfill both major and general education requirements (Approved by College Curriculum Committee Spring 2012). For this degree, complete a minimum of 60 units in courses numbered 1-599. Please note that additional elective units may be required to meet this minimum based upon courses selected to fulfill General Education for the Associate Degree.
 

Computer Security and Networking:	30-33 Units
Double Counted (Local)	3 Units
General Education §	19 Units
Electives	5-8 Units
<b>Degree Total</b>	<b>60 Units</b>

**Associate Degree requirements continued on next page.**

**Associate Degree requirements continued from previous page.**

2. **Scholarship:** Maintain an **overall grade point average (GPA) of 2.0** ("C" average) based on all accredited college work applied to the degree, no matter where completed. For this **field of concentration, complete each course above** with a **grade of "C" or better**, or "P" if course is graded on a P/NP basis.
3. **Residence for the Degree:** Complete at least 12 semester units of the required 60 semester units in residence at Long Beach City College in order for the college to grant an Associate of Arts and/or an Associate of Science Degree.
4. **Residence for the Field of Concentration:** Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 15-16.5 units** of the required 30-33 units. Credit earned by exam, where applicable, may be included.
5. **General Education and Proficiency Requirements:** Complete the required A.A./A.S. General Education and Proficiency requirements\*, otherwise known as "Plan A". For Plan A requirements, refer to the general catalog or view it online at <http://osca.lbcc.edu> .
6. Complete and submit the degree application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at [http://admissions.lbcc.edu/](http://admissions.lbcc.edu). Refer to the Schedule of Classes (<http://schedule.lbcc.edu>) and click the "Important Dates" link to view the actual deadline for each semester.

\*The requirements for general education/proficiency and the field of concentration (major) need to be from the same catalog year. This catalog year may be any year between the years of initial enrollment to the present, provided continuous enrollment is maintained throughout. See the catalog for definition of "continuous enrollment".

**Program of study leading to:  
Certificate of Achievement**

**REQUIRED COURSES**—Complete the 30-33 units of required courses as listed in the Associate Degree requirements

**Computer Security and Networking TOTAL UNITS 30-33**

--	--

For graduation with a **Computer Security and Networking Certificate of Achievement:**

1. Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of "C"**.
2. Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 15-16.5 units** of the required 30-33 units. Credit earned by exam, where applicable, may be included.
3. Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at <http://admissions.lbcc.edu/> . Refer to the Schedule of Classes (<http://schedule.lbcc.edu>) and click the "Important Dates" link to view the actual deadline for each semester.

**Program of study leading to:  
Certificates of Accomplishment**

**Certificate: Microsoft Windows Networking Technician 4086**

<u>REQUIRED COURSES</u>		UNITS	In Progress	Completed Grade
COSN 10	Networking Fundamentals	4		
COSN 200	Wireless and Mobile Devices	2		
COSN 225	Microsoft Windows Client	3		
COSN 230	Microsoft Windows Server	4		
<b>TOTAL UNITS</b>		<b>13</b>		

**Certificate: Cyber Security 4106**

<u>REQUIRED COURSES</u>		UNITS	In Progress	Completed Grade
COSN 10	Networking Fundamentals	4		
COSN 200	Wireless and Mobile Devices	2		
COSS 271	Network Security Fundamentals	4		
COSS 272	Computer Forensics and Investigation	3		
COSS 273	Ethical Hacking and Countermeasures	4		
<b>TOTAL UNITS</b>		<b>17</b>		

**Certificate: Computer Hardware Technician 4126**

<u>REQUIRED COURSES</u>		UNITS	In Progress	Completed Grade
COSA 50	Intro to IT concepts & Applications	4		
COSN 5	Computer Hardware Fundamentals	4		
<b>TOTAL UNITS</b>		<b>8</b>		

**Certificate: Computer Network Technician 4125**

<u>REQUIRED COURSES</u>		UNITS	In Progress	Completed Grade
COSN 10	Network Fundamentals	4		
COSN 200	Wireless and Mobile Devices	2		
<b>TOTAL UNITS</b>		<b>6</b>		

**Certificate: UNIX Network Administrator 4921**

<u>REQUIRED COURSES</u>		UNITS	In Progress	Completed Grade
COSN 10	Network Fundamentals	4		
COSN 205	Unix/Linux Fundamentals	4		
COSN 210	Linux Server Administration	4		
COSN 215	Linux Networking and Security	4		
<b>TOTAL UNITS</b>		<b>16</b>		

For graduation with a **Certificate of Accomplishment**:

1. Complete the above required courses with a minimum grade of "C", or "P" if course is graded on a P/NP basis.
2. Fifty percent (50%) or more of the required units must be completed in residence at LBCC.
3. Complete and submit the certificate application form to the Admissions and Records office during your final semester of course work. These forms are available in the Admissions and Records office, or online at <http://admissions.lbcc.edu>.

### Career Opportunities

This **Associate Degree or Certificate of Achievement** is a two-year program leading to the Associate in Science (A.S.) degree. It is designed to prepare students for employment in a variety of computer related fields. Students wishing a bachelor's degree (transfer program) should meet with a counselor to discuss transferability of courses.

### Program Mission and Outcomes

The mission of the Computer Networking curriculum is to skillfully train students by providing strategically designed courses to meet their academia, transferable, and career needs.

**Outcomes:**

- Install, configure, manage and troubleshoot a small office/home office network (wired or wireless)
- Secure wired and wireless networks
- Install, configure and manage client and server operating systems
- Harden servers against intrusion

### Legend

† This course has a prerequisite. Prerequisite courses must be complete with at least a "C" or "P" grade. Refer to the General Catalog (<http://www.lbcc.edu/cat/index.html>), the Schedule of Classes (<http://schedule.lbcc.edu/>), or the online Credit Course Outline (<http://wdb-asir.lbcc.edu/coursecurriculum/coursedetails/>) for specific prerequisite information.