CLOUD COMPUTING
Curriculum Guide for Academic Year 2021-2022

LONG BEACH CITY COLLEGE

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Students planning to **transfer** to a four-year college or university should refer to the ASSIST web site at 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:
Associate in Science (A.S.) Degree

COMPUTER NETWORKING REQUIRED COURSES:		UNITS	In Progress	Completed Grade
COSN 10	Networking Fundamentals	3		
COSN 205	UNIX/LINUX Fundamentals	4		
COSN 230	Computer Hardware Fundamentals	4		
COSN 250	Cloud Computing in Amazon Web Services	3		
COSN 251	Database Essentials in Amazon Web Svcs	3		
COSN 252	App Development in Amazon Web Services	3		
COSN 253	Security in Amazon Web Services	3		
COSS 271	Network Security Fundamentals	3		
	Subtotal Units	**26**		

IN ADDITION, select ONE (1) courses from the following:		UNITS	In Progress	Completed Grade
CS 11	Introduction to Computer Science- C++	4		
CS 21	Introduction to Computer Science- Java	4		
CS 31	Introduction to Computer Science-Python	4		
	Subtotal Units	**4**		
	TOTAL UNITS	**30**		

For graduation with an **Associate in Science (A.S.) Degree with a major in Cloud Computing:**

1. **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.

Cloud Computing:	30 Units
General Education **§**	19 Units
Degree Total	60 Units

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 higher**, 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
4. Long Beach City College in order for the college to grant an Associate of Arts and/or an Associate of Science Degree.
5. **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 units** of the required 30 units**.** Credit earned by exam, where applicable, may be included.

6. **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 .

7. 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/. 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 units of required courses as listed in the Associate Degree requirements

Cloud Computing TOTAL UNITS	**30**		

For graduation with a **Cloud Computing Certificate of Achievement:**
1. Complete each of the **REQUIRED COURSES** listed above with a **minimum grade of** "**C**" or higher or "P" if course is graded on a P/NP basis.
2. Complete fifty percent (50%) or more of the unit requirements for this field of concentration in residence; this means at **least 15 units** of the required 30 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.

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 Cloud Computing Associate in Science degree provides the student with the industry skills to understand, build, and maintain cloud applications. These skills include the technical principles of the hardware and software requirements to run systems in the cloud, including storage, database management, and software systems, while maintaining secure access.

Outcomes:
- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Create Infrastructure as a Service (IaaS) solutions by provisioning computing instances, establishing virtual private networks, and managing databases, and storage within a secure online environment.
- Analyze performance metrics of cloud architecture to respond dynamically to information and computing technology workloads and optimize service costs.
- Create Infrastructure as a Service using automated code scripts (Infrastructure As Code).

Outcomes for Certificate of Achievement (Cloud Computing):
- Design infrastructure as a Service (LaaS) solutions by provisioning computing instances, establishing virtual private networks, managing databases, and storage within a secure online environment.
- Analyze performance metrics of cloud architecture to respond dynamically to information and computing technology workloads and optimize service costs.
- Collaborate in a team designing business solutions in an industry aligned project.

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.