

Please submit a Program Application via the [RegionalCTE](#) website and use this application as a template. Please note you may customize the application with more courses as long as you meet the Program Requirements. Ensure you attach the [LMI](#) and [Advisory Minutes](#) provided on the LAOCRC website.

SAMPLE

Cloud Computing

Submitter's Information	
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CTE Dean's Information

CTE Dean

Patricia Ramos, Ed.D.

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Program Information

Program Title

Cloud Computing

Submission Type

New Program

TOPs Code

Computer Systems Analysis (070730)

Projected Start Date

2018-08-01

Catalog Description

The Cloud Computing program prepares students to design solutions for Infrastructure as a Service (IaaS) architectures by provisioning computing instances, establishing virtual private networks, managing databases and storage within a secure online environment. Students produce dynamic solutions responsive to information and computing technology workloads with on-demand pay-as-you-go pricing allowing flexibility for small business, entrepreneurship and enterprise adoption. Industry certifications are

embedded to prepare for occupations in Cloud Architect, Cloud Support Associate, Cloud Engineer or Cloud Technicians. Some preparation in information technology or computer programming is recommended.

Student Learning Outcomes

- Design Infrastructure as a Service (IaaS) solutions by provisioning computing instances, establishing virtual private networks, managing databases and storage within a secure online environment.
- Analyze performance metrics of a 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.

Enrollment Completer Projections

As of this submission, there are 12 Los Angeles County Community Colleges (El Camino, ELAC, Glendale, Harbor, Mission, Pierce, LATTC, LA Valley, Mt SAC, Rio Hondo, SMC, WLAC) pursuing the program with a projected enrollment of 1500-1800 and a completion rate of 75% or approximately 1,238 on a yearly basis. This value is tabulated by the approximation of the courses below with current enrollment levels in Fall 2018 (510) and the potential enrollment of upcoming colleges. With the inclusion of Orange County which is approximately ½ of Los Angeles in enrollment, an additional 619 completers are expected for a total of 1,857 yearly completers which would be an 91% increase in completion numbers for this general field of study. The completers would represent 38% of the annual job openings specific to AWS cloud technology and only 18% of the total openings in the field of information and computing technology within the Los Angeles/Orange County regions.

Program Proposal Attributes

Program Type(s)

- Certificate of Achievement: 16 or greater semester (or 24 or greater quarter) units (C)

Program Goals

The Cloud Computing program develops skills for the occupations of cloud architect and cloud technician using Amazon Web Services(AWS), the leading cloud computing provider. The program bridges traditional on-premises data center skills of server installation, database management, and networking set-up and cabling into virtualizations of these information and computing technologies over online services. Job preparation will include industry certifications of AWS Cloud Practitioner and AWS Solutions Architect Associate mapped to course work.

Note - Participating colleges can expand these program goals as needed.

Course Units and Hours

Certificate Required Units

16 - 18

Units of Major Degree

n/a

Total Units for Degree

n/a

Course Report

Program Requirements Narrative

The Cloud Computing program consists of four (4) core courses with a minimum of two (2) elective courses to accumulate the total certificate units. The core courses lay the foundational cloud technology knowledge with the initial course (Introduction to Cloud Computing) being a prerequisite for the other three. Colleges offering the program would select the elective emphasis with a minimum additional two courses.

Program Requirements

Course	Title	Units	Semester
CS 79A	Introduction to Cloud Computing	3.0	1
CS 79B	Database Essentials in Amazon Web Services	3.0	1
CS 79C	Compute Engines in Amazon Web Services	3.0	2
CS 79D	Security in Amazon Web Services	3.0	2
ELECTIVES (2 of the following)			
CS 87A	Python Programming	3.0	1
CS 79E	Best Practices in Amazon Web Services	3.0	2
CS 81	Javascript Programming	3.0	1
CS 55	Java Programming	3.0	2
CS 41	Linux Network Administration	3.0	2

Requirement	Semester 1
Core	Introduction to Cloud Computing & Compute Engines in Amazon Web Services

Requirement	Semester 1
Elective Topics	Computer programming language, operating systems, web development, Information and Communication Essentials, Business fundamentals, Customer Service
Certifications	AWS Cloud Practitioner

Requirement	Semester 2
Core	Database Essentials in Amazon Web Services Security in Amazon Web Services
Elective Topics	Systems Administrator, Dev Ops, Cybersecurity, Big Data, Serverless Architecture
Certifications	AWS Solutions Architect - Associate

Supporting Document(s)

Labor Market Information

[Download Cloud Computing Sep2018 LMI.pdf \(/storage/lmi/176--Cloud Computing Sep2018 LMI.pdf\)](#)

Submission Details

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Submitted

Los Angeles/Orange County Region Specific Questions

District

Santa Monica

College

Santa Monica College

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Reason for approval request

New Program

Place of program in college's curriculum/similar program

The Cloud Computing program is complementary to existing Information Technology Technician Pathways where skill sets and background translate to cloud methods and allow for students to help companies with existing on-premises data centers transition to the cloud. Although complementary, many companies are cloud native especially in the start-up and small business utilizing web services. In addition, the Cloud Computing program assist the practical implementation of computer science students' skills set to provide tangible coding packaged within a

cloud infrastructure. Although students in computer science programs may transfer, leveraging a certificate to a part-time job to enter a position as a software developer with cloud implementation skills will increase job prospects.

Similar programs at other colleges in the Los Angeles and Orange County Region

This program submission is on behalf of the participating colleges of the California Cloud Workforce, a Strong Workforce project in Los Angeles County. Santa Monica College is the lead college on the project and curriculum development in coordination with the members of the project. This submission is to support a collaborative certificate program across the partner colleges.

Annual Enrollment projects (non-duplicative)

1,857

Advisory Minutes

[Download CA Cloud Computing Regional Advisory Minutes 10-19-18.pdf \(/storage/Los Angeles/Orange County/176-591-2493-CA Cloud Computing Regional Advisory Minutes 10-19-18.pdf\)](#)