aws

# AWS Educate:
# Addressing the Grand Cloud Workforce Opportunity

**Christina Cole, AWS Educate EMEA Lead**
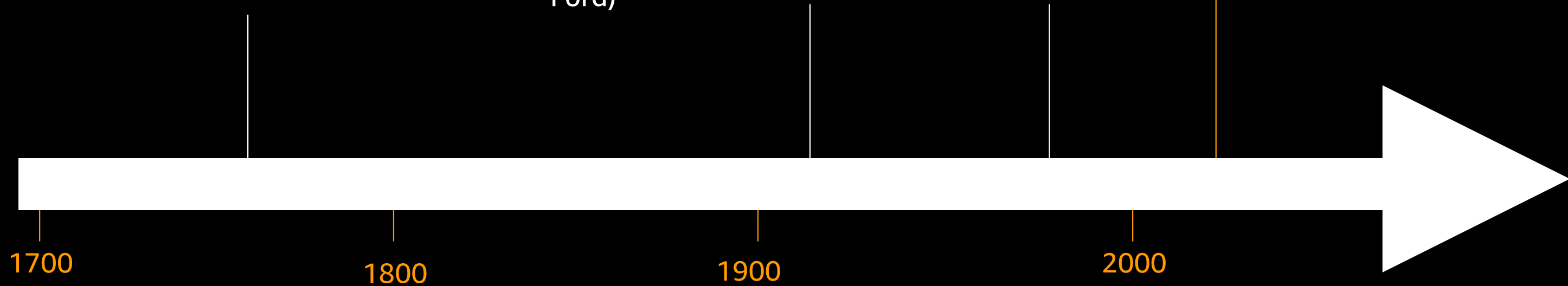
# Cloud and the 4$^{th}$ industrial revolution

Mechanization of Textile Industry:
- 1764 Spinning Jenny and 1768 Water Frame
- Birth of the Factory

Assembly Line and Mass Production (1913, with Henry Ford)

Personal Computer and Internet (1980s/90s)

**The Cloud and IoT, Robotics, Machine Learning, etc**

1700      1800      1900      2000

aws

# … dramatic growth of AWS …

**$30b** yearly run rate

**+45%** YOY growth rate

aws

"Cloud Computing" has been the #1 LinkedIn skill for three years in a row[1]

# And millions of jobs in the Cloud!

Average AWS Certification Salary[2]:
AWS Certified Developer, Associate: $138k
AWS Certified Solutions Architect, Associate: $115k
AWS Certified SysOps Admin, Associate: $108k

[1] https://blog.linkedin.com/2016/10/20/top-skills-2016-week-of-learning-linkedin
[2] *Global Knowledge 2016 IT Skills and Salary Report*

aws

# PROBLEM: We can't fill the demand for these jobs



- McKinsey's landmark study around **mid-to-high skill job gap**

- Time to hire **increased 80%** from 2009 to 2015

- Shift toward "**higher-skilled**, less routine positions requiring **judgment** and **technical skills**"

# What is AWS Doing to Address the Skills Gap?

aws | Get IT

AWS re:Start
WORKING TOGETHER TO POWER THE
DIGITAL LANDSCAPE IN THE UK

aws educate

Teaching Tomorrow's Cloud Workforce Today

WE
we power tech

aws academy

Teaching Tomorrow's Cloud Workforce Today

# AWS Educate Value Proposition
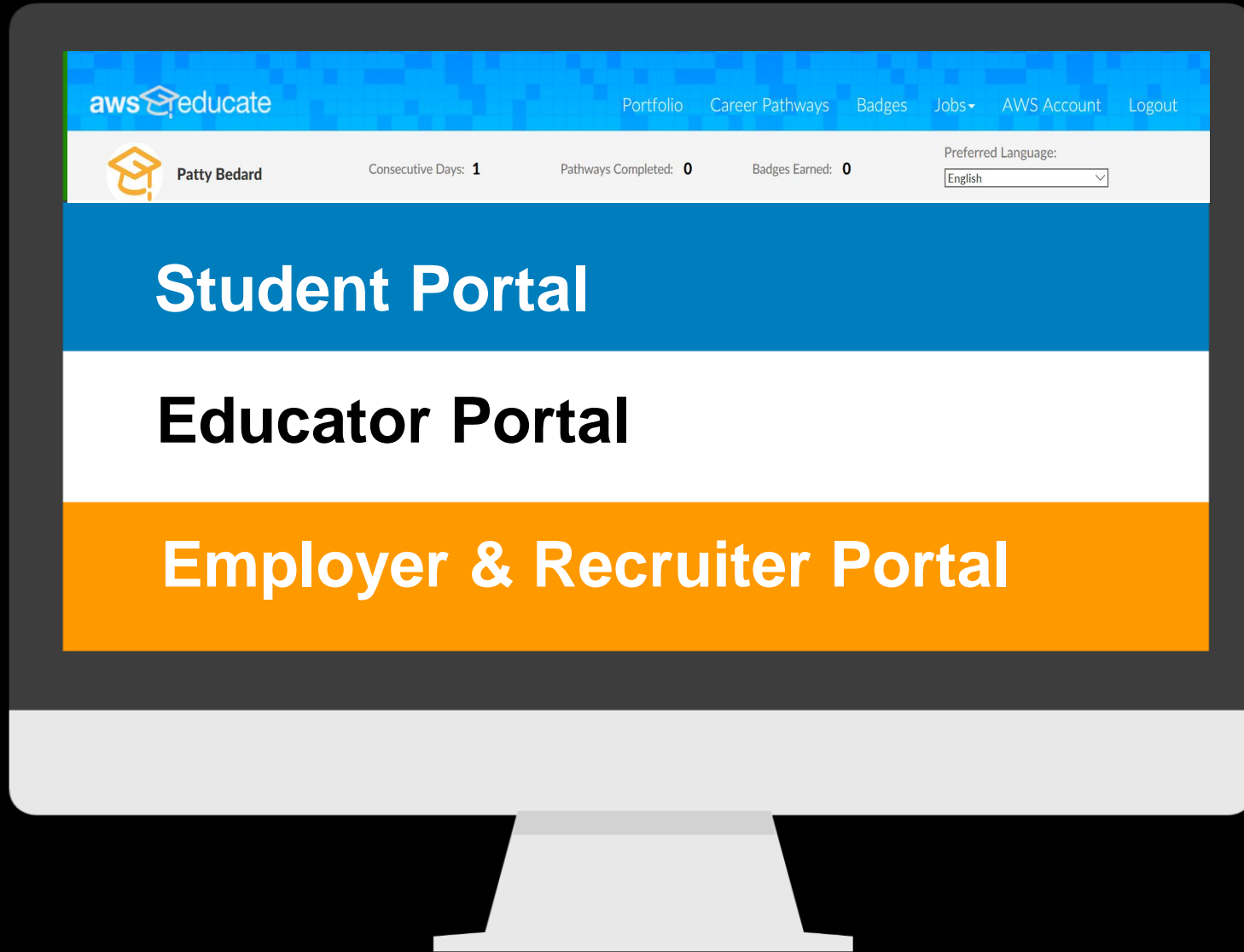
# Free access to AWS

- In addition to free learning & teaching content, students and educators get free access to the AWS console
- Students receive up to $100, Educators up to $200 when they sign up
- Educators can request more credits free of charge at any point.

| | Educators | Students |
|---|---|---|
| **AWS Credits (annually renewable)** | • $200 in AWS credits per educator – at member institutions<br>• $75 in AWS credits per educator – at non-member institutions | • AWS Account: $100 in AWS credits per student at member institutions; $40 in credits at non-member institutions<br>• AWS Educate Starter Account: $75 in AWS credits at member institutions; $30 in AWS credits at non-member institutions |

aws

# AWS Educate Career Pathways

# K-12 Program

- 3 new cloud badges for students 14 – 17
- Dynamic navigational experience
- Teacher access to guides which map to core computer science principles
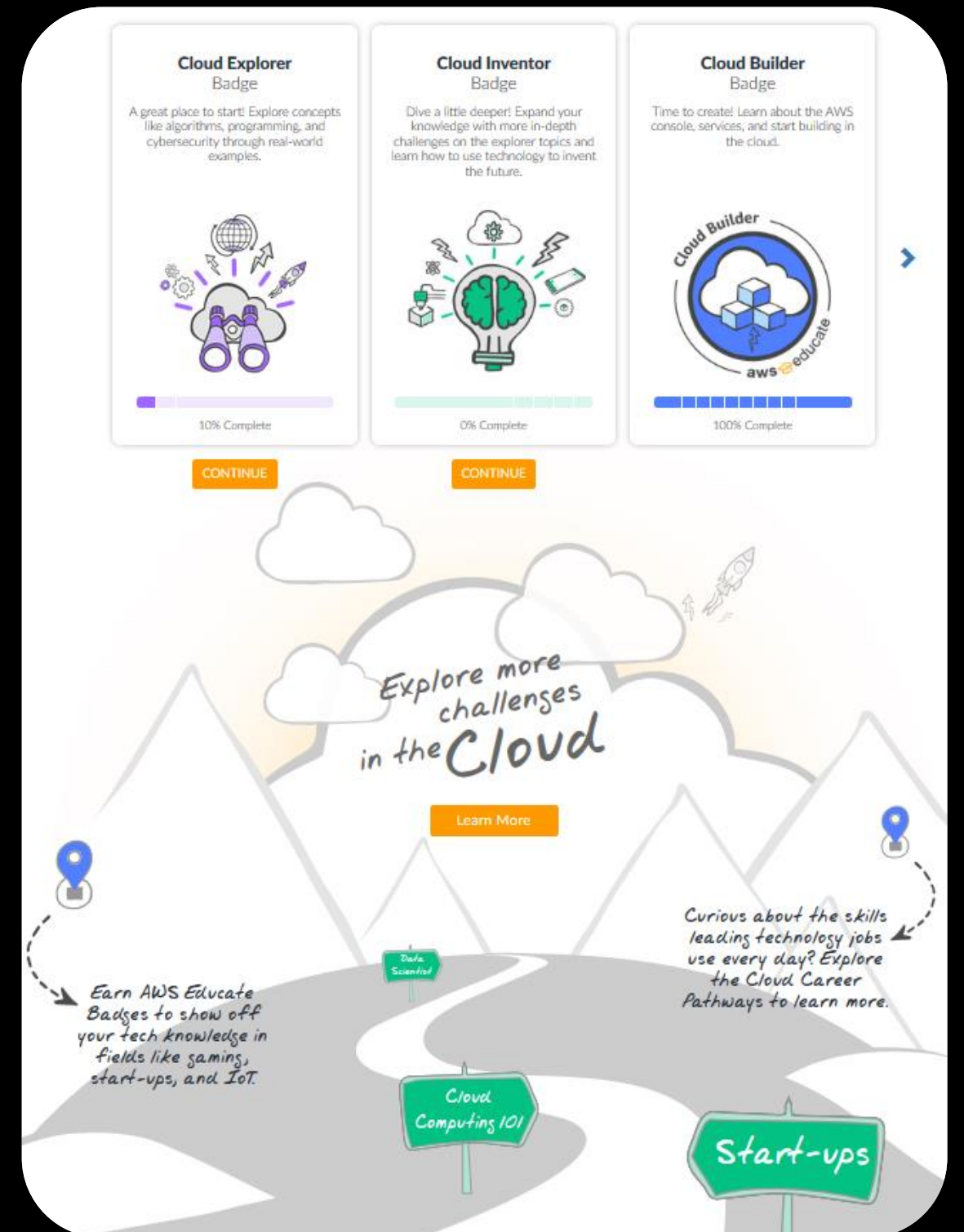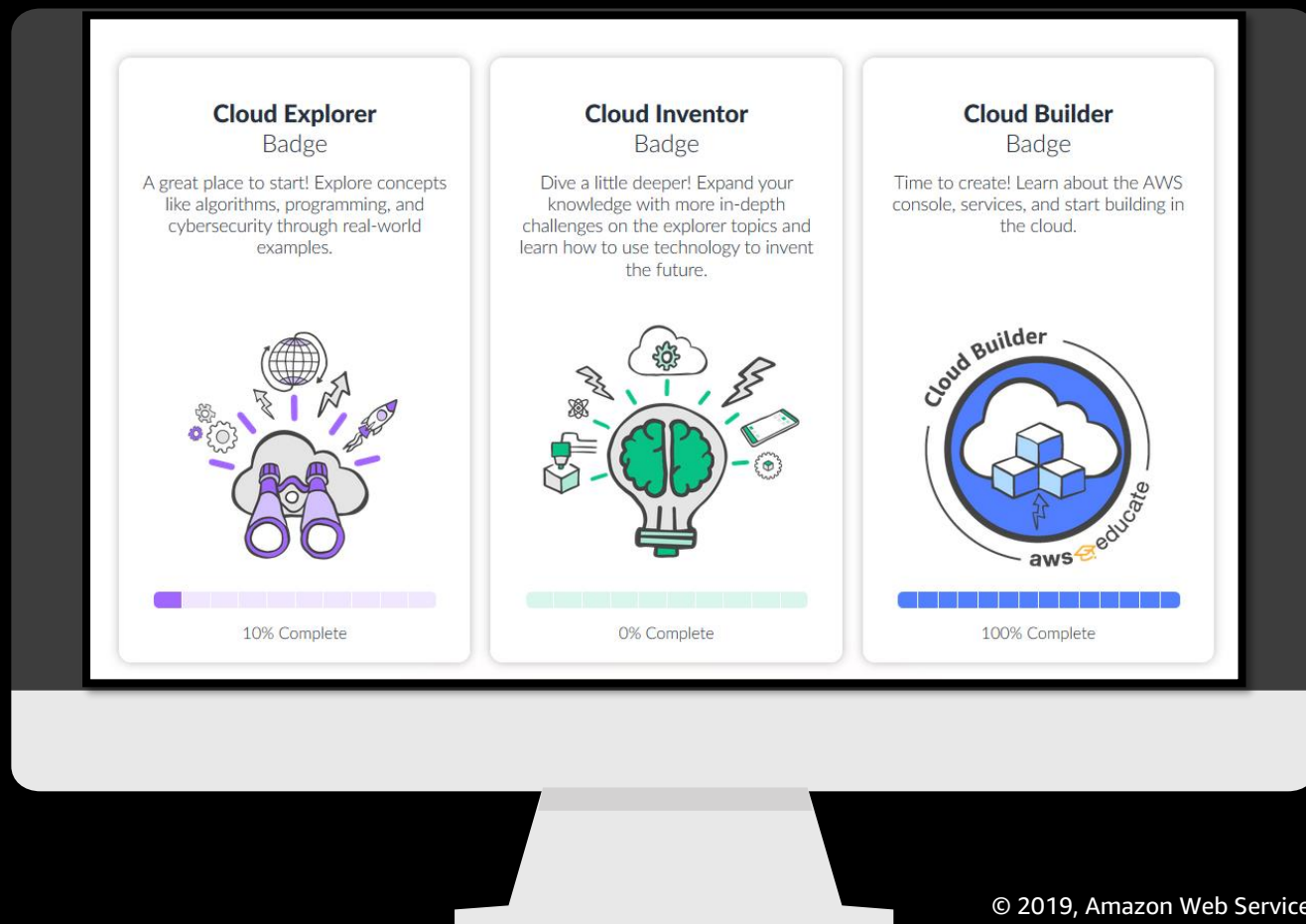
# AWS Educate Interview Accelerator

- Job Board feature to accelerate candidates to a cloud job
- Amazon, customers and APN members have access
- Amazon & StakArmor pledge first
- Global Expansion

# Knowledge Continuum

## CS K-12 Standards

Data and Analysis

Algorithms and Programming

Computing Systems

Impacts of Computing

Networks and Internet

## Cloud Skills

Storage

Artificial Intelligence

Data Structures

Security

Identity and Access

## Career Competencies

Think Big

Dive Deep

Bias for Action

Invent and Simplify

aws
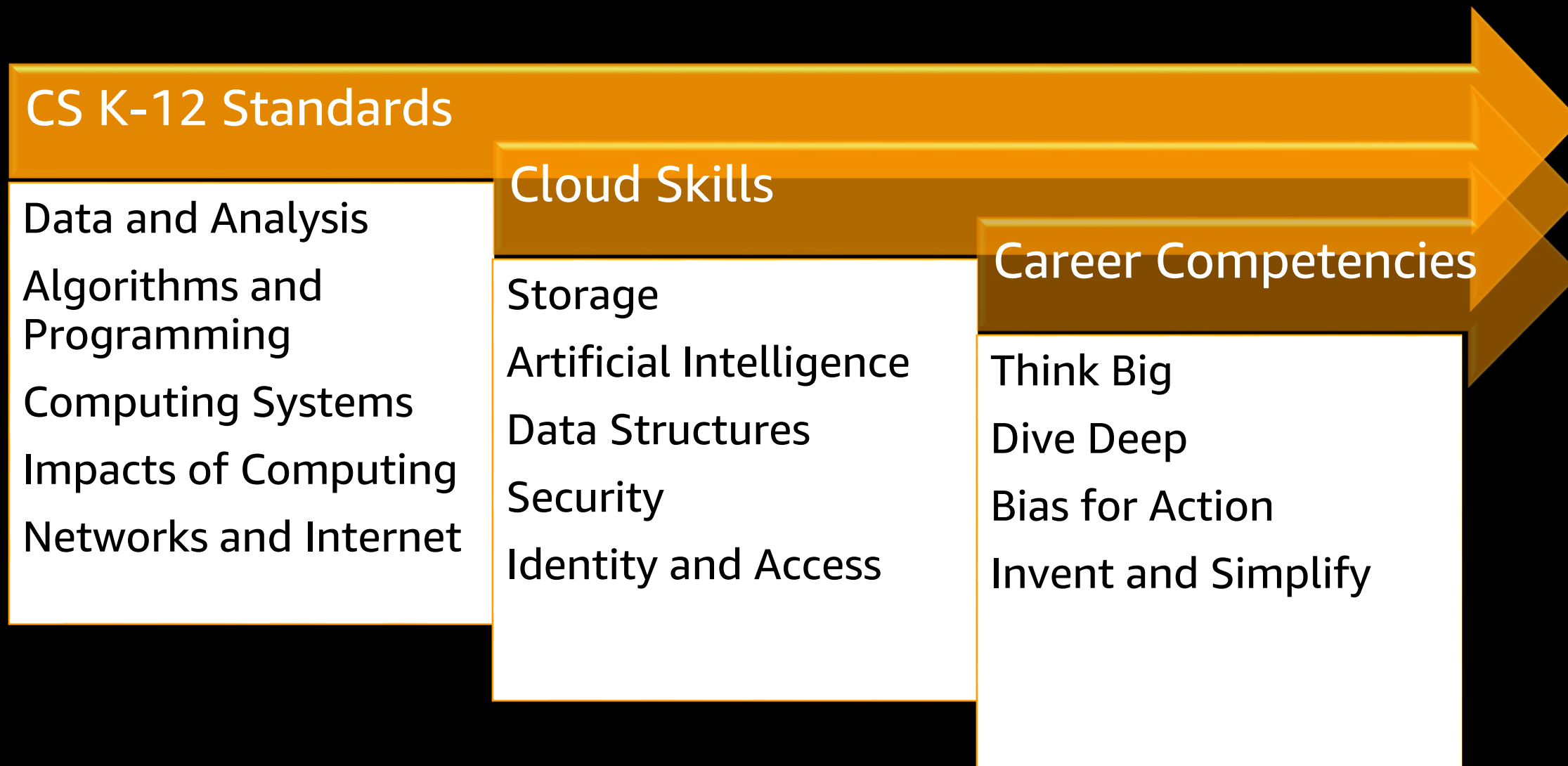
# AWS Educate Classrooms

- Capped environment
- Access to AWS Services with pre-loaded credit
- Educator monitored



① Select Classroom Template (maximum 3)

**AWS Cloud Basics**
Services enabled: EC2, S3, RDS

Use the AWS Cloud Basics to introduce students to fundamentals of AWS and to cloud computing concepts. Student can get their first Linux instance up in the cloud with EC2, store and access file to create a static web site using S3, create and operate their first database using RDS, and learn about security and access control with IAM.

**Big Data**
Services enabled: EC2, Athena, DynamoDB, EMR, Glue, RDS, S3

Teach big data applications such as clickstream analytics, fraud detection, recommendation engines, event-driven ETL, and internet-of-things processing with the Big Data template. Easily provision EMR clusters for Hadoop, Spark, and other big data learning. Learn SQL vs NOSQL using RDS and DynamoDB.

**Machine Learning and AI**
Services enabled: Machine Learning, Rekognition, Lex, Polly, Comprehend, Translate, Transcribe, SageMaker, Deeplens, Personalize, Forecast, Robomaker

Build a chatbot, access voice services with Lex and Polly, use image Rekognition, or use sophisticated machine leaning models tools like MXNet and Tensor flow to create general predictions with the Machine Learning template. Use deeplens camera with deeplens service, or try out new AI services such as
**Read more**

**Building Scalable Websites**
Services enabled: EC2, S3, RDS, ELB

Introduce students to building and hosting scalable, elastic websites on AWS. Use EC2 for compute, S3 to store site content, and ELB to dynamically scale based on demand.

**Cloud9**
Services enabled: Cloud9, S3

Use AWS Cloud9, an Integrated Development Environment (IDE) for writing, running, and debugging code from your web browser. Cloud9 comes prepackaged with essential tools for many popular programming languages (Javascript, Python, PHP, etc.) so you don't have to tinker with installing various compilers and toolchains. You can also use Cloud9 for working with serverless applications, switch between local and remote
**Read more**

**Serverless Computing**
Services enabled: Lambda, API Gateway, S3, DynamoDB

Get students started with serverless computing using lambda on AWS for web applications, backends, and data processing apps. Serverless applications don't require students to provision, scale, and manage any servers and can be built for nearly any type of application or backend service. Everything required to run and scale an application is managed by AWS.
**Read more**

**AWS Management Console**

**AWS services**

**Find Services**
You can enter names, keywords or acronyms.

*Example: Relational Database Service, database, RDS*

▼ **Recently visited services**

| | | |
|---|---|---|
| S3 | Amazon SageMaker | WorkSpaces |
| EC2 | Key Management Service | |

▼ **All services**

| Compute | Management & Governance | AWS Cost Management |
|---|---|---|
| EC2 | CloudWatch | AWS Cost Explorer |
| Lightsail ☑ | AWS Auto Scaling | AWS Budgets |
| ECR | CloudFormation | AWS Marketplace Subscriptions |
| ECS | CloudTrail | |
| EKS | Config | Mobile |
| Lambda | OpsWorks | AWS Amplify |

aws

# New! Cloud Degree Curriculum Repository- on AWS Educate Educator portal

## Cloud Degree Curriculum Repository

Browse downloadable instructional content (e.g. modules, units, lessons, hands-on activities, and assessments) that has been developed by AWS subject matter experts and trusted facult curriculum developers. Assemble or embed content to "cloudify" existing courses or create new "cloud native" coursework.
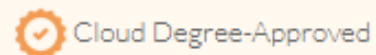
Cloud Degree-Approved    All content in this repository has been reviewed, approved, and curated by the AWS Educate Curriculum Development team.

### Browse Content

Clear Filters >                                           Showing 5 of 7 results                         1  2  >

| Program Type                    ∨ | **Security in Amazon Web Services** |
|---|---|
| Certificate ☐ | SECURITY \| Full Course, 45 hours |
| 2-Year Degree ☐ | This course focuses on protecting the confidentiality, integrity and availability of computing systems and data. |
| 4-Year Degree ☐ | Last Updated Apr 2, 2019 \| Common Cartridge |

➕ Add to Favorites

🔗 Live Preview

aws

# For our AWS Educate- Trail Blazers
# AWS Educate Cloud Ambassador Scheme

# Mass demand

2400+
Educational
Institutions

Top 10
Global Computer
Science &
Information
Systems
Institutions

QS World University Rankings by Subject 2016 - Computer
Science & Information Systems

Half a Million
Of Students

Over 200
Countries and
Territories

Over 10,000
Teachers

aws

# Sampling of global member schools

aws

# The Cloud Degree

# Cloud Degree Initiative is a collaboration between AWS Educate & leading educational institutions to develop academic programs mapped to entry-level positions in cloud computing.

**Flexible degree, certificate, or specialization** conferred by member institutions.
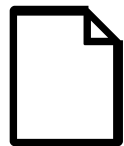
Assessment of existing IT courses & **support for curriculum development.**

Faculty training & student access to state-of-the-art cloud tools.

Job Placement – Interview Accelerator

aws

LA HI·TECH

CALIFORNIA CLOUD WORKFORCE

latimes.com

## Amazon partners with L.A. community colleges for cloud computing program

*Ethan Millman*

3-4 minutes

Los Angeles Trade Technical College is one of 19 regional community colleges that will offer a cloud computing certificate as part of a partnership with Amazon Web Services. (Glenn Koenig /

THE JOURNAL

Cloud Computing Ed

## AWS Dual Enrollment Program Ramps up in California

- By Dian Schaffhauser
- 08/23/18

A group of community colleges in Southern California is working with **Amazon Web Services** and its education program to develop college credit courses for a cloud computing career pathway that starts in high school, continues through college and leads to industry certifications. The goal of the "**CA Cloud Workforce Consortia**" is to expand this on curriculum and develop a

...nica College piloted its
...d **AWS Educate**,
...r High School to offer
...t was so high,
...m from two

...und compute
... **Colleges**
...d $200
...ducation

10   LOS ANGELES BUSINESS JOURNAL                                                 OCTOBER 16, 2017

## Amazon Lends Hand on Cloud Curriculum

School sees potential match between certificate program, high-paying occupation

**SILICON BEACH REPORT**

GARRETT REIM

THE need for a pipeline of workers who understand the ins-and-outs of **Amazon. com Inc.**'s Web Services –a cloud computer service used to host websites and other applications – appears to be strong based on the reaction to a new course offered at a local community college.

Amazon has partnered with **Santa Monica College** to help create a Cloud Computing Certificate. Courses are focused on the fundamentals of cloud computing, and filled up within the first day of the program launching this fall, a likely reflection of demand for such skills in the marketplace.

"Amazon Web Services flew in a team from all over the country to help the faculty develop the curriculum," said **Tricia Ramos**, dean of workforce and economic development at Santa Monica College. "They obviously need to scale up a workforce in cloud computing."

Rendering: SpaceX's BFR docking at the International Space Station.

teach the hardware and software requirements to run systems in the cloud, including storage, database management and software systems, as well as cloud security best-practices.

"The value to the students is they are receiv-

regional labor market could have major benefits for both sides of [the] education-industry partnership," according to a recently released report by the center.

Santa Monica College's Cloud Computing

equipped with 31 rocket engines and the equivalent cargo space of the double-decker passenger airliner the Airbus A380, will be a cure-all for his obsessive plans to colonize Mars.

"Essentially, we want to make our current vehicles redundant," Musk explained, during a presentation at International Astronautical Congress, which was held in Adelaide, Australia, Sept. 25-29. "This was really quite a profound realization that if we can build a system that cannibalizes our own products . . . then all the resources—which are quite enormous—used for Falcon 9, Heavy and Dragon can be applied to one system."

The BFR is scheduled for completion in the early 2020s and would be a do-it-all workhorse for SpaceX, launching satellites into Earth orbit,

...ue high school
...t for secondary
...ommunities. In return, the
...uding help in curriculum

aws

# Cloud Associate Degree announced at Public Sector Summit

aws

# Thank You!

**www.awseducate.com**
**@AWS_edu**
**#AWSEducate**
**cscole@amazon.com**

aws