AWS Academy

aws academy

Dear Nagresh Kumar,

Welcome to AWS Academy!

R.D. Engineering College has been approved to join the AWS Academy program with Amazon Internet Services Private Limited ("AISPL").

AWS Academy member institutions are responsible for nominating educators to earn AWS Academy accreditation and become authorized to teach AWS Academy courses.

The accreditation process is a self-paced, professional development program delivered online with support from the AWS Academy Technical Program Management team.

AWS Academy membership is site based and this application grants membership to the following site*:

Main Campus
8 th KM Mile Stone from Ghaziabad National Highway(NH) No.58, Delhi-Meerut Road , Duhai
Ghaziabad, Uttar Pradesh 201206
India

AWS Academy Membership is governed by a comprehensive set of rules and criteria. For example:

- Only AWS Academy Accredited Educators may deliver AWS Academy courseware.
- There must be at least one AWS Academy Accredited Educator per AWS Academy course.

For more details and a complete list of criteria, please see the AWS Academy Terms & Conditions and the AWS Academy Program Guide.

To access courseware and begin learning, please log in to the AWS Academy portal:

https://www.awsacademy.com/SiteLogin.

An AWS Academy Program Manager will reach out to you to answer any questions and further support you.

We look forward to your participation and wish your institution, educators, and students success in their cloud computing and AWS journey.

Sincerely,
Vikrant Satsangi
The AWS Academy Team

Director
R.D. Engineering College
Duhai, Ghaziabad

R.D. Engineering College T&P

Course Outline

AWS Academy Cloud Foundations

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Course version

This course outline applies to version 2.0 of *AWS Academy Cloud Foundations* in English. Details of changes from version 1.0 are available in the Instructor Guide.

Description

AWS Academy Cloud Foundations is intended for students who seek an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support.

Curriculum objectives

Upon completion of this course, students will be able to do the following:

- Define the AWS Cloud
- Explain the AWS pricing philosophy
- Identify the global infrastructure components of AWS
- Describe the security and compliance measures of the AWS Cloud, including AWS Identity and Access Management (IAM)
- Create a virtual private cloud (VPC) by using Amazon Virtual Private Cloud (Amazon VPC)
- Demonstrate when to use Amazon Elastic Compute Cloud (Amazon EC2), AWS Lambda, and AWS Elastic Beanstalk
- Differentiate between Amazon Simple Storage Service (Amazon S3), Amazon Elastic Block Store (Amazon EBS), Amazon Elastic File System (Amazon EFS), and Amazon Simple Storage Service Glacier (Amazon S3 Glacier)
- Demonstrate when to use AWS database services, including Amazon Relational Database Service (Amazon RDS), Amazon DynamoDB, Amazon Redshift, and Amazon Aurora
- Explain the architectural principles of the AWS Cloud
- Explore key concepts related to Elastic Load Balancing, Amazon CloudWatch, and Amazon EC2 Auto Scaling

Duration

Approximately 20 hours, when delivered synchronously by an educator. Detailed timings are provided below. Actual delivery times will vary from class to class and depending on the delivery format. AWS Academy Cloud Foundations must be delivered over a period of at least two weeks.

Intended audience

This introductory-level course is intended for students attending AWS Academy member institutions.

Student prerequisites

To ensure success in this course, students should have the following:

Course Outline

AWS Academy Cloud Foundations

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- General IT technical knowledge
- General IT business knowledge

Delivery methods

This course can be delivered in person with synchronous lectures or with digital training models that students can complete independently.

Educator prerequisites

This course does not have any prerequisites for educators. However, prior to facilitating this course, educators are recommended to complete this course, complete the AWS Academy Cloud Foundations course, and pass the AWS Certified Cloud Practitioner exam.

Learning resources

- Lecture materials
- Online multiple-choice knowledge checks
- Lab exercises
- Digital training (optional)
- Video introductions
- Video demos
- Example solutions

Course timing

This table provides the suggested durations for all course activities. Note that the total classroom time for all the modules in this course is 1,200 (20 hours). Items that are not applicable are marked NA.

Module Title	Lecture (Minutes)	Activity/Lab/ Demo (Minutes)	Knowledge Check (Minutes)	Total Module (Minutes)
Course Introduction	35	NA	NA	35
Module 1: Cloud Concepts Overview	45	5	10	60
Module 2: Cloud Economics and Billing	45	45	10	100
Module 3: AWS Global Infrastructure Overview	25	35	10	70
Module 4: Cloud Security	45	60	10	115
Module 5: Networking and Content Delivery	60	60	10	130
Module 6: Compute	80	135	10	225

Course Outline

AWS Academy Cloud Foundations

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Module Title	Lecture (Minutes)	Activity/Lab/ Demo (Minutes)	Knowledge Check (Minutes)	Total Module (Minutes)
Module 7: Storage	45	75	10	130
Module 8: Databases	60	60	10	130
Module 9: Cloud Architecture	40	65	10	115
Module 10: Automatic Scaling and Monitoring	35	45	10	90
Total Course Time	515	585	100	1,200

Module sections

This section lists the module sections in this course.

Course Introduction

- Course objectives and overview
- AWS Certification exam information
- AWS documentation

Module 1: Cloud Concepts Overview

- Introduction to cloud computing
- Advantages of the cloud
- Introduction to AWS
- Moving to the AWS Cloud
- Activity: Sample Exam Question
- Knowledge check

Module 2: Cloud Economics and Billing

- Fundamentals of pricing
- Total cost of ownership
- Activity: Simple Monthly Calculator
- Delaware North case study
- AWS Organizations
- AWS billing and cost management
- Billing dashboards
- Technical support models
- Activity: Support Plan Scavenger Hunt
- Activity: Sample Exam Question
- Knowledge check

Module 3: AWS Global Infrastructure Overview

- AWS global infrastructure
- Demo: AWS global infrastructure

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Course Outline

AWS Academy Cloud Foundations

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- AWS services and service categories
- Activity: AWS Management Console Clickthrough
- Activity: Sample Exam Question
- Knowledge check

Module 4: Cloud Security

- AWS shared responsibility model
- Activity: AWS Shared Responsibility Model
- AWS IAM
- Demo: AWS IAM Console
- Securing a new AWS account
- Lab: Introduction to AWS IAM
- Securing accounts
- Securing data
- Working to ensure compliance
- Activity: Sample Exam Question
- Knowledge check

Module 5: Networking and Content Delivery

- Networking basics
- Amazon VPC
- VPC networking
- Activity: Label This diagram
- Demo: Amazon VPC Console
- VPC security
- Activity: Design a VPC
- Lab: Build a VPC and Launch a Web Server
- Route 53
- CloudFront
- Activity: Sample Exam Question
- Knowledge check

Module 6: Compute

- Compute services overview
- Amazon EC2 part 1
- Amazon EC2 part 2
- Amazon EC2 part 3
- Demo: Amazon EC2
- Lab: Introduction to Amazon EC2
- Activity: Amazon EC2 Versus Managed Services
- Demo: Amazon EC2 Part Console
- Amazon EC2 cost optimization
- Container services
- Introduction to AWS Lambda
- Activity: AWS Lambda

Course Outline

AWS Academy Cloud Foundations

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- Introduction to AWS Elastic Beanstalk
- Activity: AWS Elastic Beanstalk
- Activity: Sample Exam Question
- Knowledge check

Module 7: Storage

- AWS EBS
- Demo: Amazon Elastic Block Store Console
- Lab: Working with EBS
- AWS S3
- Demo: AWS S3 Console
- AWS EFS
- Demo: AWS EFS Console
- AWS S3 Glacier
- Demo: AWS S3 Glacier Console
- Activity: Storage Technology Selection
- Activity: Sample Exam Question
- Knowledge check

Module 8: Databases

- Amazon RDS
- Demo: Amazon RDS Console
- Lab: Build a Database Server
- Amazon DynamoDB
- Demo: Amazon DynamoDB
- Amazon Redshift
- Amazon Aurora
- Activity: Database case study
- Activity: Sample Exam Question
- Knowledge check

Module 9: Cloud Architecture

- AWS Well-Architected Framework design principles
- Activity: AWS Well-Architected Framework Design Principles
- Operational excellence
- Security
- Reliability
- Performance efficiency
- Cost optimization
- Reliability & high availability
- AWS Trusted Advisor
- Activity: Interpret AWS Trusted Advisor Recommendations
- Activity: Sample Exam Question
- Knowledge check

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Course Outline

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Module 10: Automatic Scaling and Monitoring

- Elastic Load Balancing
- Activity: Elastic Load Balancing
- Amazon CloudWatch
- Activity: Amazon CloudWatch
- Amazon EC2 auto scaling
- Lab: Scale & Load Balance your Architecture
- Activity: Sample Exam Question
- Knowledge check

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