Certainly! Here's a comprehensive 4-week plan to teach AWS fundamentals, tailored to prepare students for a subsequent DevOps course. This plan covers essential AWS services and foundational topics.

Week 1: Introduction to AWS and Core Services

Day 1: Introduction to Cloud Computing and AWS

- What is Cloud Computing?
- Benefits of Cloud Computing
- Introduction to AWS
- Overview of AWS Global Infrastructure

Day 2: AWS Identity and Access Management (IAM)

- Introduction to IAM
- Creating IAM Users and Groups
- IAM Policies and Permissions
- Multi-Factor Authentication (MFA)

Day 3: Amazon Elastic Compute Cloud (EC2)

- Introduction to EC2
- Launching and Connecting to an EC2 Instance
- Security Groups and Key Pairs
- EC2 Instance Types and Pricing

Day 4: Amazon Simple Storage Service (S3)

- Introduction to S3
- Creating and Managing S3 Buckets
- S3 Storage Classes and Lifecycle Policies
- Bucket Policies and Access Control

Day 5: Amazon Virtual Private Cloud (VPC)

- Introduction to VPC
- Subnets, Route Tables, and Internet Gateways
- Security Groups vs. Network ACLs
- VPC Peering and VPN

Week 2: Advanced AWS Services

Day 1: AWS Relational Database Service (RDS)

- Introduction to RDS
- Creating and Managing RDS Instances
- RDS Security and Backup

- Multi-AZ and Read Replicas

Day 2: Amazon DynamoDB

- Introduction to NoSQL and DynamoDB
- Creating and Managing DynamoDB Tables
- Indexes and Querying
- DynamoDB Streams and DAX

Day 3: AWS Lambda and Serverless Computing

- Introduction to AWS Lambda
- Creating and Deploying Lambda Functions
- Event Sources and Triggers
- Introduction to the Serverless Framework

Day 4: Amazon Simple Queue Service (SQS) and Simple Notification Service (SNS)

- Introduction to SQS
- Creating and Managing SQS Queues
- Introduction to SNS
- SNS Topics and Subscriptions

Day 5: Elastic Load Balancing (ELB) and Auto Scaling

- Introduction to ELB
- Types of Load Balancers
- Configuring Load Balancers
- Introduction to Auto Scaling
- Setting Up Auto Scaling Groups

Week 3: Monitoring, Security, and Optimization

Day 1: AWS CloudWatch and CloudTrail

- Introduction to CloudWatch
- Setting Up CloudWatch Alarms and Metrics
- Introduction to CloudTrail
- Monitoring and Auditing with CloudTrail

Day 2: AWS Security Services

- Introduction to AWS Security Hub
- AWS Shield and WAF
- AWS Key Management Service (KMS)
- Best Practices for Security in AWS

Day 3: Cost Management and Optimization

- Introduction to AWS Cost Explorer
- Setting Up Billing Alerts
- AWS Trusted Advisor
- Cost Optimization Strategies

Day 4: AWS Elastic Beanstalk

- Introduction to Elastic Beanstalk
- Deploying Applications using Elastic Beanstalk
- Managing and Scaling Applications
- Monitoring and Troubleshooting

Day 5: AWS CloudFormation

- Introduction to Infrastructure as Code (IaC)
- Writing CloudFormation Templates
- Deploying and Managing Stacks
- CloudFormation Best Practices

Week 4: Preparing for DevOps with AWS

Day 1: AWS CodeCommit and CodeBuild

- Introduction to AWS CodeCommit
- Creating and Managing Code Repositories
- Introduction to AWS CodeBuild
- Setting Up Build Projects

Day 2: AWS CodeDeploy

- Introduction to AWS CodeDeploy
- Creating Deployment Applications and Groups
- Deployment Strategies: In-Place and Blue/Green
- Monitoring and Rollback

Day 3: AWS CodePipeline

- Introduction to AWS CodePipeline
- Creating and Managing Pipelines
- Integrating CodeCommit, CodeBuild, and CodeDeploy
- Pipeline Best Practices

Day 4: Container Services - ECS and EKS

- Introduction to Containers

- Overview of Amazon ECS
- Overview of Amazon EKS
- Deploying Applications with ECS and EKS

Day 5: Exam Preparation

- Review of Key Concepts
- Sample Exam Questions and Practice
- Q&A and Troubleshooting Session

Additional Resources:

- AWS Free Tier for Hands-On Practice
- AWS Documentation and Whitepapers
- AWS Certification Guide (if interested in certification)
- Online Forums and Communities (e.g., AWS Reddit, Stack Overflow)