

Course Code	Course Title	L	T	P	C
1156EC420	NETWORKING IN GCP: DEFINING AND IMPLEMENTING NETWORKS	0	0	0	2

a) Course Category

Independent Learning – Self Learning Course

b) Preamble

This course will provides about broad study of networking options on Google Cloud Platform. It also explores and deploys GCP networking technologies, such as Google Virtual Private Cloud (VPC) networks, subnets and firewalls and covers access control to networks, sharing networks and load balancing.

c) Prerequisite

Nil

d) Related Courses

Cloud Computing

e) Course Outcomes

On successful completion of this course the student will be able to

CO Nos.	Course Outcomes	Knowledge Level (Based on Revised Bloom's Taxonomy)
CO1	Explain the different types of VPC and VM with multiple network interfaces	K2
CO2	Describe Control access, Cloud IAM and firewall rules.	K2
CO3	Explain the Share VPC networks across GCP, different types of load balancers in GCP	K2
CO4	Describe optimization and deployment in GCP networks.	K2
CO5	Describe the features of network monitoring and logging ,network traffic behavior in GCP networks.	K2

f) Course Content

UNIT I GOOGLE CLOUD VPC NETWORKING FUNDAMENTALS

Fundamentals of Virtual Private Cloud (VPC) networking in Google Cloud Platform (GCP), different types of VPC objects, Internal DNS, Cloud DNS, IP aliases and VMs with multiple network interfaces

UNIT II CONTROLLING ACCESS TO VPC NETWORKS

Control access to VPC Networks, including Cloud Identity and Access Management (Cloud IAM) and firewall rules.

UNIT III SHARING NETWORKS ACROSS PROJECTS AND LOAD BALANCING

Share VPC networks across GCP projects using shared VPC and VPC peering. Configure the different types of load balancers in GCP and leverage managed instance groups, Cloud Armor, and Cloud CDN

UNIT IV OPTIMIZATION AND DEPLOYMENT IN GCP NETWORKS

Optimize the network scheme and administer billing in GCP, automate the deployment of networks, deployment manager and launch networking solutions using cloud market space

UNIT V GCP NETWORK MONITORING AND TROUBLESHOOT

Network monitoring and logging features- Use VPC Flow Logs to log and analyze network traffic behavior, troubleshoot GCP network infrastructure- Configure uptime checks, alerting policies, and charts in network services

g) Learning Resources

Online Resources

1. <https://www.class-central.com/course/coursera-networking-in-gcp-defining-and-implementing-networks>
2. <https://cloud.google.com/training/courses/networking-gcp>
3. <https://www.coursera.org/learn/networking-gcp-defining-implementing-networks>