

**Common Course Outline**  
**DCOM 263**  
**Virtualization and Cloud Computing using VMware**  
**4 Credits**

**The Community College of Baltimore County**

**Description**

**DCOM 263 - Virtualization and Cloud Computing using VMware** enables students to install, configure, manage, maintain, and troubleshoot a virtual network infrastructure/cloud computing platform using VMware vSphere. Students install and configure virtual machines, virtual networks, and virtual hard disks on datacenter and cloud servers. The course is designed for students pursuing a career in network engineering, virtualization, or cloud computing. The course is designed to help students prepare for the VMware certification exam.

**4 Credits**

**Prerequisites: DCOM141 or DCOM101**

**Overall Course Objectives**

Upon completion of this course students will be able to:

1. identify the benefits of virtualization;
2. install datacenter servers and cloud servers;
3. create and configure virtual machines;
4. migrate and clone virtual machines;
5. install and configure guest operating systems;
6. configure virtual switches;
7. configure security parameters;
8. install and configure storage area networks (SAN's) and virtual hard disks;
9. monitor, analyze, and optimize system performance;
10. implement fault tolerance;
11. upgrade software and perform host maintenance; and
12. implement a virtual network infrastructure.

**Major Topics**

- I. Principles of cloud computing and virtualization
- II. Components of a datacenter
- III. Datacenter server installation
- IV. Virtual machines
- V. Virtual networks and virtual switches
- VI. Storage area networks and virtual hard disks
- VII. Performance monitoring and optimization

- VIII. Security
- IX. Fault tolerance
- X. Scalability
- XI. Updates and host maintenance

### **Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but, at a minimum, will include the following:

- Midterm exam
- Final exam
- One project

### **Other Course Information**

This course is an elective in the A.A.S. degree in Network Technology.

Date revised: 09/08/15