

СОФИЙСКИ УНИВЕРСИТЕТ "СВ. КЛИМЕНТ ОХРИДСКИ"
ФАКУЛТЕТ ПО МАТЕМАТИКА И ИНФОРМАТИКА

учебна година: 2009/2010

семестър: летен

наименование на дисциплината: Изграждане и администриране на Майкрософт Активна директория		
хорариум: 3 + 0 + 2 Общо: 75 часа (45 + 0 + 30)		
вид на дисциплината: избираема		
специалност: Разпределени системи и мобилни технологии	курс: I ÷ II	поток:
лектор: гл. ас. Георги Георгиев		

1. Кратка анотация на дисциплината

Курсът е избираем за студентите от I и II курс в магистърската програма "Разпределени системи и мобилни технологии" на направление „Информатика“.

Курсът дава специализирани знания по конфигуриране, управление, наблюдение и текуща поддръжка на домейн услуги с Активна Директория.

Курсът е предназначен за подготовка на специалисти в областта на технологиите на Активна Директория.

Курсът е по учебните програми на Microsoft: MOC # 6425: Configuring and Troubleshooting Windows Server 2008 Active Directory Domain Services, и MOC # 6432: Managing and Maintaining Windows Server 2008 Active Directory Servers.

Този курс е подготвителен за сертификационен изпит за степен Microsoft Certified Technology Specialist (MCTS) – Exam 70-640: TS: Windows Server 2008 Active Directory, Configuring.

2. Предварителни изисквания към студентите (отнася се само за избираемите дисциплини)

Студентите следва да имат сериозни познания по TCP/IP протокола, както и за компютърни мрежи и мрежови услуги – DHCP, DNS.

Препоръчително е студентите успешно да са преминали курсовете:

- „Администриране на Майкрософт сървъри“ (MOC # 6418: Deploying Windows Server 2008 и MOC # 6419: Configuring, Managing and Maintaining Windows Server 2008 Servers);
- „Изграждане на мрежова и приложна инфраструктура“ (MOC # 6420: Fundamentals of Windows Server 2008 Network and Applications Infrastructure);
- „Конфигуриране и поддръжка на мрежови услуги“ (MOC # 6421: Configuring and Troubleshooting a Windows Server 2008 Network Infrastructure).

3. Форма на проверка на знанията и уменията и начин на формиране на оценката по дисциплината

<i>Междинни тестове по време на занятията:</i>	33 % от крайната оценка
<i>Финален тест:</i>	67 % от крайната оценка

4. Тематичен план (конспект) на дисциплината

Module 1: Implementing Active Directory Domain Services

Lessons

- Installing Active Directory Domain Services
- Deploying Read-Only Domain Controllers
- Configuring AD DS Domain Controller Roles

Lab: Implementing Read-Only Domain Controllers

- Evaluating Forest and Server Readiness for Installing an RODC
- Installing and Configuring an RODC
- Configuring AD DS Domain Controller Roles

Module 2: Configuring Domain Name Service for Active Directory Domain Services

Lessons

- Overview of Active Directory Domain Services and DNS Integration
- Configuring Active Directory Integrated Zones
- Configuring Read Only DNS Zones

Lab: Configuring AD DS and DNS Integration

- Configuring Active Directory Integrated Zones
- Configuring Read-Only DNS Zones

Module 3: Configuring Active Directory Objects and Trusts

Lessons

- Configuring Active Directory Objects
- Strategies for Using Groups
- Automating AD DS Object Management
- Delegating Administrative Access to AD DS Objects
- Configuring AD DS Trusts

Lab: Configuring Active Directory Objects

- Configuring AD DS Objects
- Implementing an AD DS Group Strategy
- Automating the Management of AD DS Objects

Lab: Configuring Active Directory Objects and Trusts

- Delegating Control of AD DS Objects
- Configuring AD DS Trusts

Module 4: Configuring Active Directory Sites and Replication

Lessons

- Overview of AD DS Replication
- Overview of AD DS Sites and Replication
- Configuring and Monitoring AD DS Replication

Lab: Configuring Active Directory Sites and Replication

- Configuring AD DS Sites and Subnets

- Configuring AD DS Replication
- Monitoring AD DS Replication

Module 5: Creating and Configuring Group Policy

Lessons

- Overview of Group Policy
- Configuring the Scope of Group Policy Objects
- Evaluating the Application of Group Policy Objects
- Managing Group Policy Objects
- Delegating Administrative Control of Group Policy

Lab: Creating and Configuring GPOs

- Creating Group Policy Objects
- Managing the Scope of GPO Application
- Verifying GPO Application
- Managing GPOs
- Delegating Administrative Control of GPOs

Module 6: Configuring User Environments Using Group Policy

Lessons

- Configuring Group Policy Settings
- Configuring Scripts and Folder Redirection Using Group Policies
- Configuring Administrative Templates
- Group Policy Preferences
- Deploying Software Using Group Policy

Lab: Lab Configuring User Environments Using Group Policies

- Configuring Scripts and Folder Redirection
- Configuring Administrative Templates
- Configuring Preferences
- Verifying GPO Application

Module 7: Implementing Security Using Group Policy

Lessons

- Configuring Security Policies
- Implementing Fine-Grained Password Policies
- Restricting Group Membership and Access to Software
- Managing Security Using Security Templates

Lab: Implementing Security Using Group Policies

- Configuring Account and Security Policy Settings
- Implementing Fine-Grained Password Policies
- Configuring Restricted Groups and Software Restriction Policies
- Configuring Security Templates
- Verifying the Security Configuration

Module 8: Implementing an Active Directory Domain Services Monitoring Plan

Lessons

- Monitoring AD DS Using Event Viewer
- Monitoring Active Directory Domain Servers Using Reliability and Performance Monitor
- Configuring AD DS Auditing

Lab: Monitoring Active Directory Domain Services

- Monitoring AD DS Using Event Viewer
- Monitoring AD DS Using Performance and Reliability Monitor

- Configuring AD DS Auditing

Module 9: Implementing an Active Directory Domain Services Maintenance Plan

Lessons

- Maintaining the AD DS Domain Controllers
- Backing Up Active Directory Domain Services
- Restoring Active Directory Domain Services

Lab: Implementing an Active Directory Domain Services Maintenance Plan

- Maintaining AD DS Domain Controllers
- Backing Up AD DS
- Performing an Authoritative Restore of the AD DS Database
- Restoring Data Using the AD DS Snapshot Viewer

Module 10: Troubleshooting Active Directory, DNS, and Replication Issues

Lessons

- Troubleshooting Active Directory Domain Services
- Troubleshooting DNS Integration with AD DS
- Troubleshooting AD DS Replication

Lab: Troubleshooting Active Directory, DNS, and Replication Issues

- Troubleshooting Authentication and Authorization Errors
- Troubleshooting the Integration of DNS and AD DS
- Troubleshooting AD DS Replication

Module 11: Troubleshooting Group Policy Issues

Lessons

- Introduction to Group Policy Troubleshooting
- Troubleshooting Group Policy Application
- Troubleshooting Group Policy Settings

Lab: Troubleshooting Group Policy Issues

- Troubleshooting Group Policy Scripts
- Troubleshooting GPO Lab11B
- Troubleshooting GPO Lab11C
- Troubleshooting GPO Lab11D

Module 12: Implementing an Active Directory Domain Services Infrastructure

Lessons

- Overview of the AD DS Deployment
- Planning a Group Policy Strategy

Lab: Deploying Active Directory Domain Services

- Installing a Read-only Domain Controller (RODC) onto a Server Core, and Creating a Branch Office Site
- Creating a Domain in a Separate Tree and Separate Site

Lab: Configuring Forest Trust Relationships

- Upgrading the Fabrikam Domain, and Creating a Forest Trust with Woodgrove Bank

Lab: Planning a Group Policy Strategy

- Planning Group Policy
- Creating a Domain in a Separate Tree and Separate Site
- Implementing the Corporate Desktop Policy

Module 13: Managing an Active Directory Server Lifecycle

Lessons

- Planning an Active Directory Server Deployment
- Using Active Directory Server Deployment Technologies
- Adding AD DS Server Roles
- Removing AD DS Server Roles

Lab: Managing and Maintaining a Windows Server 2008 Domain Controller

- Evaluating the Need for AD DS Promotion
- Meeting the Need by Adding a Role
- Managing a Change Request for an RODC by Using the Command Line
- Developing a Management and Maintenance Plan
- Evaluating the Management and Maintenance Plan

Module 14: Creating Baselines for Active Directory Servers

Lessons

- Baseline Methodologies for Active Directory Servers
- WRPM Overview
- Using Metrics to Create Baselines for Active Directory Servers

Lab: Creating Baselines for Active Directory Servers

- Involving Users in Baseline Development
- Choosing Relevant WRPM Counters and Durations
- Evaluating and Revising a Baseline Document in the Face of Business Changes

Module 15: Monitoring the System Health of Active Directory Servers

Lessons

- System Health Overview
- Using Long-Term Monitoring to Identify Trends
- Setting Thresholds and Alerts for Short-Term Monitoring
- Choosing the Appropriate Windows Server 2008 Monitoring Tools

Lab: Monitoring the Active Directory Server Roles

- Setting a Performance Alert to Meet a Business Goal
- Discussing Alert Response Strategies
- Building a Case for Configuration Change

Module 16: Managing Active Directory Domain Services

Lessons

- Restarting and Restoring Active Directory
- Overview of the Flexible Single Master Operations (FSMO) Roles
- Planning Sites and Replication
- Managing RODCs
- Methods of Managing Windows Server Core
- Best Practices for GPOs and Links
- Delegating Active Directory Administration

Lab: Managing AD DS

- Offline Defragging of the Active Directory Database
- Evaluating an RODC with Read-Only DNS Solution
- Making Site Replication Decisions
- Group Policy Link Strategies

Module 17: Maintaining Security for Active Directory Servers

Lessons

- Server Hardening Techniques

- Using the MBSA to Discover and Remove Security Holes
- Using Fine-Grained Password Policies to Simplify Network Organization
- Planning Security Auditing
- Enhancing Physical Security

Lab: Maintaining Security for the Active Directory Servers

Manually Implementing AD DS Server Hardening

- Assessing Ongoing Security Requirements
- Deploying Fine-Grained Password Policies

5. Литература

MOC # 6425: Configuring and Troubleshooting Windows Server 2008 Active Directory Domain Services – Students book

MOC # 6432: Managing and Maintaining Windows Server 2008 Active Directory Servers – Students book